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ENCYCLOPAEDIA ASIATICA

ENCYCLOPAEDIA ASIATICA

Comprising

INDIAN SUBCONTINENT
EASTERN AND SOUTHERN ASIA

Commercial, Industrial and Scientific

By

EDWARD BALFOUR

IN NINE VOLUMES

VOL. VIII. RHAPIS-TANGAL



COSMO PUBLICATIONS

NEW DELHI **INDIA**

COSMO PUBLICATIONS

24-B, ANSARI ROAD, NEW DELHI-110002.

The present work was originally published with the title "Cyclopaedia of India and of Eastern and Southern Asia" in 1858 and after an edition in 1873, was completely revised in 1884. The present edition which is released with the title 'Encyclopaedia Asiatica,' is a reprint of that revised edition and contains prefaces to First, Second & Third editions, which were not available in the last edition.

FIRST PUBLISHED	1858
SECOND EDITION	1873
THIRD EDITION	1884

PRINTED IN INDIA

PUBLISHED BY MRS. RANI KAPOOR, COSMO PUBLICATIONS,
24B, ANSARI ROAD, DARYAGANJ, NEW DELHI-110002. AND PRINTED AT
RAKESH PRESS, NARAINA INDUSTRIAL AREA, NEW DELHI-110028.

PREFACE TO THE FIRST EDITION

Whilst we find books of reference in most departments of sciences and literature in connection with European countries, daily becoming cheaper and more abundant, those who investigate and seek for information regarding the sources of British India, or any of the Scientific and economic subjects connected with Eastern Countries, still meet with much difficulty and hindrance, owing to the necessity of consulting numerous authors whose works are scarce or costly. And as some inquirers are without the pecuniary means of procuring all the requisite books and Journals, or find it impossible to procure them at any cost, whilst others want leisure or opportunity for such extensive research, it is evident that progress in these branches of knowledge would be greatly facilitated, by collecting and condensing this widely dispersed information, thereby enabling future inquirers to gain some acquaintance with the results of the investigations made by the many diligent and laborious individuals, who have devoted a great portion of their time to collecting information over the vast areas of Southern Asia.

My avocations while employed in India, more particularly in the past seven years, have rendered necessary for me a collection of books of reference relating to India and the East, somewhat more numerous and varied in character than private individuals generally possess ; whilst my employment a Secretary to the Madras Central Committees for the Great Exhibition of 1851, the Madras Exhibition of 1855, the Universal Exhibition held in 1855, in Paris, and the Madras Exhibition of 1857, combined with my duties (since 1851), as Officer in Charge of the Government Central Museums, have brought under my notice a rare variety of Eastern products and subjects of interest; and thinking that, before quitting the countries in which I have dwelt for nearly a quarter of a century, I might, with advantage leave to my successors in a portable form, the notes made on the products of the East that have come under my notice, combined with an abstract of useful information respecting these contained in my books, I have been led to show the results in the present shape.

A work of this aim and character might doubtless fully occupy the life time of several men attainments ; and this Cyclopædia of India and Eastern and Southern Asia, may therefore be regarded only as a first attempt towards the kind of book, the want of which has been long and generally felt. But although fully conscience of its incompleteness in many respects, yet, I trust it may still

be received with all imperfections and omissions, as a useful and opportune addition to Asiatic literature ; at least by those who recognize the greatness of the saying of Emmerson, that "the thing done avails, and not what is said about it; and that an "original sentence, or a step forward, is worth more than all the censors"* which may be made by such as are disposed to find fault, or who would demand in a work of this kind, a degree of perfection unattainable on a first trial.

The book is merely a novelty in form, the matter it contains being as old as our possessions in India : it is simply a compilation of the facts and scientific knowledge, which authors and inquirers have been amassing and communicating since then, to one and another and the public. But, "in our time, the higher walks of literature have been so long and so often trodden, that whatever any individual may undertake, it is scarcely possible to keep out of the foot steps of his precursors",† and this Cyclopædia. I may, therefore, avow to be put an endeavour to make generally available, in a condensed form, the information acquired by those who have in any way investigated the natural or manufactured products of Southern Asia, or have at any time made its arts or natural history the subjects of inquiry. Some of those whose writings I have made use of, have long since gone to their account, but many a labourer yet alive may find the result of his labours embodied here ; and I have done this freely, because even those whose writings I have most largely drawn, will acknowledge that the quaint old lines of Chaucer†† still apply with full force; viz. that,

"Out of the old field, as man sayeth,
Cometh all his new corn fro' year to years;
So out of old books, in good faith,
Cometh all this new Sciences that men lere"

Indeed, I have rather sought to collect and condense accurate and well ascertained facts than to present novelties; for originality is but too often unconscious or undetected limitation. Byron, years ago, remarked that all pretensions to it are ridiculous; and a wiser one than Byron has told us that "there is nothing new under the sun." But if there be nothing absolutely new in this work, I hope it may yet be found to contain much which to many was unknown before; and which for want of books, liesure, or opportunity, may have debarred them from learning.

The Cyclopædia is not intended to comprise the whole Science of Botany, nor that of Medicine or Zoology; nor to instrust in all the matters useful in Commerce or the Arts; but, whether examined for information or amusement, the botanist, the medical practitioner, the naturalist and the merchant,

*English Traits p. 5

†Salad for the Social, p. 317

††Ibid, page 321.

may perhaps each find something in it which, from his engagements he did not know before, or though once knowing he may have again forgotten. In both cases, the work may prove useful, since old thoughts are often like old cloths; put away for a time, they become apparently new by brushing up. It would have been better perhaps, had a work of this kind been undertaken years ago, or even now were it made the joint effort of several persons : indeed, to render it in any way complete, would call for the resources at the command of a Government rather than of individuals; but we cannot have every thing at the time we wish, nor in the way we wish, and it is better to have some one undertake it and do it the best way he can, now, than to postpone it to some further indefinite period.

With a view therefore of laying a foundation as a starting point for future inquirers, I now undertake the commencement of a work, towards which I hope to receive from many quarters aid and support as I proceed : being thereby enabled either to produce future enlarged and improved editions of the work my self, placing it, as I hope, within the reach of all, or seeing that task taken up here after, by younger men, with more time and opportunities than are now before me. A dinner of fragments is often said to be best dinner, and in the same way, there are few minds that might furnish some instructions and entertainment, from their scraps, odds and ends of knowledge. Those who cannot weave a uniform web, may atleast produce a piece patchwork; and any items of information sent to me will be very acceptable.

There is another difficulty which inquirers in this country have had to meet and struggle with ; I allude to the many languages and dialects in use in India and Eastern Asia, and subsequently the variety of scientific, national, or even local names, by which the same thing is known. The only means of overcoming this difficulty was to frame a copious index of Contents; for Pope has well said that,

“Index learning turns no student pale,
yet holds the eel of science by the tail.”

This Indexing will add to the bulk of the book, but greatly also to its value as a work of reference; and will be carefully completed.

PREFACE TO THE SECOND EDITION

The first edition with its two Supplements contained 29,870 names and the work was favourably received by the public and press. But my acquaintance with these countries did not permit me to regard that number as other than a foundation for an enlarged and improved edition, and this second edition will contain about 100,000 names, under which much connected with India and with Eastern and Southern Asia will be found.

I have spared neither time nor labour to make the present edition as perfect as possible, but a Cyclopedia must necessarily ever be progressive.

1871

Edward Balfour

PREFACE TO THE THIRD EDITION

THE first edition of this Cyclopædia was published in 1858 in India, the second, also in India, in 1873, and the years 1877 to 1884 inclusive have been occupied in revising it for publication in England. During this process, every likely source of further information has been examined, and many references made. I am under obligations to many learned men, to the Secretariat Officers of the Indian Governments, and to the Record and Library Officers of the India Office, Colonial Office, and British Museum, for their ready response to my applications for aid.

This edition contains 35,000 articles, and 16,000 index headings, relating to an area of 30,360,571 square kilometers (11,722,708 square miles), peopled by 704,401,171 souls. In dealing with subjects in quantities of such magnitude, oversights and points needing correction cannot but have occurred ; but it is believed that errata are not many, and will be of a kind that can be readily remedied.

It is inevitable that difficulties in transliteration should be experienced, owing to the variously accented forms which some words assume even among tribes of the same race, also to the different values accepted in many languages for the same letters, and especially to the want of correspondence in the letters of the several Eastern alphabets ; but in this work traditional and historical spelling has not been deviated from, and the copious Indices will guide to words of less settled orthography.

Men of the same race, habits, and customs, plants and animals of the same natural families, genera, and even species, are so widely distributed throughout the South and East of Asia, that local histories of them are fragmentary and incomplete. India in its ethnology, its flora and fauna, can therefore only be fairly dealt with by embracing a wider area. This is the reason why the Cyclopædia and my work on the Timber Trees include all Eastern and Southern Asia, the regions, the areas and populations of which may be thus indicated :---

PREFATORY NOTICE.

INDIA, EASTERN AND SOUTHERN ASIA.	SQUARE KILOMETERS.	POPULATION.
Caucasus, Russian,	472,666	5,546,554
Trans-Caspian, do.	327,068	203,000
Central Asia, do.	3,017,700	5,036,000
Independent Turkoman Region, . . .	206,500	450,000
Khiva,	57,800	700,000
Bokhara, Thignan, Karategin, etc., .	239,000	2,130,000
Arabia,	3,156,600	5,000,000
Persia,	1,647,070	7,653,000
Afghanistan and Provinces,	721,664	4,000,000
Kafiristan,	51,687	500,000
China Proper,	4,024,690	350,000,000
China Provinces,	7,531,074	21,180,000
	11,555,764	371,200,000
Corea,	236,784	8,500,000?
JAPAN AND PROVINCES,	382,447	36,357,212
British India and Feudatories, . . .	3,774,193	252,541,210
Nepal, Bhutan,	234,000	3,300,000
French India,	508	276,649
Portuguese India,	3,355	444,987
Ceylon,	24,702	2,606,930
FURTHER INDIA—		
British Burma,	229,351	3,707,646
Manipur,	19,675	126,000
Tribes south of Assam,	65,500	200,000
Burma, Independent,	457,000	4,000,000
Siam,	726,850	5,750,000
Annam,	140,500	21,000,000
French Cochín-China,	59,456	1,597,013
Cambodia,	83,861	890,000
Malacca, Independent,	81,500	300,000
Straits Settlements,	3,742	390,000
ISLANDS—		
Andamans,	6,497	14,500
Nicobars,	1,772	5,500
Sunda Islands, Moluccas,	1,693,757	28,867,000
Philippines, Spanish Indies, . . .	296,182	6,300,000
Netherland India,	677,038	27,154,054
New Guinea and Papuan Islands, . .	785,362	807,956
British Northern Borneo,	57,000	150,000
Australia, . . . . .	...	2,193,200
Tasmania, . . . . .	...	115,705
New Zealand, . . . . .	...	489,933
Total, excluding Australia, Tasmania, and New Zealand,	30,360,571 sq. kil. 11,722,708 sq. m.	704,401,171

I am under obligations to Messrs. Morrison & Gibb for their careful press-work. All that their art could do has been done to aid me in keeping the work in a compact form.

EDWARD BALFOUR.

2 OXFORD SQUARE, HYDE PARK,
LONDON, 24th May 1885.

ENCYCLOPAEDIA ASIATICA

VOL. VIII
RHAPIS-TANGAL

A small tree of Kaghan, common on all the Panjab rivers up to near the Indus at from 4000 to 9500 feet; grows along the Himalaya and on the Neigherries. Fruit bitter; and when eaten, causes diarrhoea.—*Voigt; Cleghorn.*

Rhamnus Wightii, *W. and A.*, is the *Rugtorar* of Bombay.

RHAPIS FLABELLIFORMIS. *Ait., Linn.* An exceedingly slender palm of China and Japan, grows to a few feet in height. It is excellent for decoration.—*Von Mueller.*

RHAZES, the literary name of Muhammad-bin-Zakaria, Razi.

RHAZYA STRICTA. *Dne.*

Sanwar, HIND. | Gandra, TR.-INDUS.
Vena, SUTLEJ, RAVI. | Ganera, "

Grows all over the hill-sides at Attock; fruit applied to boils.—*Powell; Stewart.*

RHE, *Rhei*, *Re*, or *Rey*, the *Rhages* of the Apocrypha. Its ruins are a few miles south of the city of Teheran. They cover a vast extent of ground, and have supplied materials for the modern capital of Persia. The scriptural accounts of *Rhe*, *Rhei*, or *Rhages*, during the captivity of the Jews in this part of the Babylonian empire, fully prove that *Rhei* was a very considerable city at least two hundred years before the Jews' deliverance. All oriental writers agree upon its antiquity, and it is called 'the mother of cities.' It was once a very large place, the capital of the Jabbal (the hills), and very rich and flourishing. In A.D. 906, *Rhages* was taken by Ismail, founder of the Samanee dynasty. It ceased now to be a seat of empire, and in A.D. 967 became the capital of the house of Shemgur, a race of petty princes who maintained a kind of independence, while the dynasties of Saman and Dilemee divided the empire of Persia. In A.D. 1027, *Rhages* was the last conquest of Mahmud of Ghazni.—*Porter's Tr. i. p. 357; Markham's Embassy*, p. 99; *Smith's Dic.; Malcolm's Persia; Ferrier's Journeys.*

RHEA of Assam, China grass.

Kankhora, Gamb, BENG.	Rami, MALAY.
Inan of Bonoa,	Sidziassi, MARIAN ISLANDS.
Goon, BURM.	Poah, NEPAL.
Chu-ma, Tchou-ma, CHIN.	Calooee, of SUMATRA.
China grass, ENG.	Keperit, Kaperit, SUNDA.

The plant yielding this valuable fibre is the *Urtica nivea*, *Linn.*, the *Urtica tenacissima*, *Roxb.*, the *Boehmeria nivea* of later botanists, and the *Ortie blanche sans dards de la Chine* of French writers. The specific names characterize the snow-white, strong fibre, and the non-stinging nettle. It seems to be also known as the *Boehmeria sanguinea*, from the circumstance that although when growing the back of the leaf is white, with green veins, at maturity it assumes a reddish-brown hue. It is a native of Assam and of China, seemingly also of Japan, Java, and Borneo, and from it the China grass fibre is obtained, called in China *Chu-ma* or *Tchou-ma*. The preparation of the fibre is tedious, and is what causes the difficulty of sending the fibre at a cheap rate into market.

In 1869, the Government of India offered two prizes, of £5000 and £2000, for the best and second best machines for cleaning the fibre, but only £1500 was awarded for an inferior one. In 1872, out of thirty-two machines entered, only two were actually brought forward, and one of these was withdrawn. The remaining machine, belonging

to Mr. J. Greig, jun., of Edinburgh, was worked during a period of three weeks before Colonel Hyde, the judge, in the presence of the owner, who had brought it to Saharunpur in person. The conditions were that the machine should turn out a ton of fibre at an expense not exceeding £15, including all items, such as interest, wear and tear, etc., and that the prepared fibre should be equal in value to at least £50 per ton in the English market. The machine was valued at £200. There are now two machines and two processes that claim to treat green fibre successfully. The cultivation of rhea has been successfully introduced into the south of France, Algeria, and the Southern States of America.

In the native process, Major Haunay writes, 'when the stalks have become brown for about 6 inches above the roots, the top is seized with the left hand, and the leaves are stripped off by passing the right hand to the ground, near which the stalk is cut. The outer bark has first to be scraped off with a blunt-edged knife, when the exposed fibre still attached to the woody part of the stalk is exposed to the hot sun to dry. On the third morning, after being exposed to the dew for several hours, the fibre is drawn off. This is done by breaking the woody stalk right through towards the thicker end, and then separating the fibre therefrom, drawing it off slowly towards the small end, and repeating the process as often as necessary, though much of the fibre remains, and may be taken off at a second breaking. The fibres now require to be carefully washed. The hanks of fibre are then separately twisted at the upper end, and tied up in bundles. When the threads are required for spinning, they are prepared by drawing the single hanks several times with a blunt-edged slip of bamboo held in the right hand, when they are easily opened out to the required fineness with the fingers and thumb nails.' Dr. McGowan of Ningpo states that in China the last cutting is made in September, from which the finest cloth is made, the first being inferior, coarse, and hard. On being cut, the leaves are carefully taken off on the spot, the stalks taken to the house and soaked in water for an hour. In cold weather the water should be tepid. After this the plant is broken in the middle, by which the fibrous portion is loosened and raised from the stalk. Into the interstice thus made, the operator thrusts the finger nails, and separates the fibre from the centre to one extremity and then to the other. The stripping process is very easy. The next process is scraping the hemp, to facilitate which the fibre is first soaked in water. The strips of hemp are drawn over the blade of a small knife or scraper from within outwards, and, being pressed upon by the thumb, the fibrous portion of one surface, and the mucilaginous part of the other, are thus taken off. The hemp is then wiped dry, and the whitest selected for fine cloth. It is afterwards bleached.

The following directions for peeling the *Chu-ma* or *Tchou-ma* in China, are translated from the Chinese. When the stems are all got in, they are split longitudinally with knives of iron or of bamboo. The bark is first removed, then the lower layer (which is white, and covered with a shrivelled pellicle which comes off by itself) is scraped off with a knife. The interior fibres are then seen; they are to be removed and softened

in boiling water. If the Tchou-ma be peeled in winter, the stems must be previously steeped in tepid water, in order that they may be the more easily split. The first layer of Tchou-ma is coarse and hard, and is only good for making common materials; the second is a little more supple and fine; the third, which is the best, is used for making extremely fine light articles.

In China, this plant is of great value, in the Southern States of N. America the plant has flourished, but the 1880 Report on the Calcutta Botanic Garden doubts whether rhea fibre can be produced cheaply in that part of India.

In China, fields of rhea are said to last, with care and manure, for 80 to 100 years. It grows with the greatest vigour in damp warm climates. In the islands of the Indian Archipelago it is cultivated under shade. It requires a light but fertile soil, but it must be well drained. It is propagated from the separated roots, from layers, slips, or cuttings; in this way five cuttings of grown stems can be expected in the year after planting; from seed, no crop can be expected before the third year.

M. Favier describes the plant as giving out several stems, of which the number increases in proportion to the development of the root, which forms a kind of tuft or bush. The stems are woody, and have the appearance of thick, strong rods, the height varying from 5 to 12 feet. The roots, slips, or layers should be planted 18 inches apart, and after the first crop the alternate rows should be transplanted into new fields, leaving the remainder, about 3500 plants per acre, to spread and cover the ground. The yield in Java is said to be 44 stems per year from each stool, taken in four cuttings. Each stem in its green state weighs about 1 lb.; 100 lbs. weight of green stems yields 5 lbs. of a raw fibre or filament, which, by Muspratt's analysis, as quoted by M. Favier, contains 66 per cent. of pure cellulose. In the official reports to the India Office, with native hand treatment the crop is said to be 1000 lbs. of raw fibre per acre, taken in four cuttings. M. Favier states that in Algeria 1400 lbs. of fibrous thongs was the crop per acre, as calculated by Mr. Hardy, ex-Director of the Botanical Gardens there; while in the south of France as much as 1600 lbs. of filament have been obtained to the acre.

Mr. P. L. Simmonds, in 1873 (*Journal*, xxi. p. 762), stated that the crop gathered in Jamaica amounted to 300 lbs. per acre at each cutting, and that there had been five cuttings in the year, making the yield three-fourths of a ton per acre per year. While Mr. Bainbridge, in the discussion on Mr. L. Wray's paper, in 1869, stated that the result of his own experience in Assam was 750 lbs. green nettles, which gave 45 lbs. weight of fibre in each of three cuttings, making only 135 lbs. per acre per year (*Journal*, xix. p. 453). The yield appears to depend on soil, climate, and treatment. The properties of the rhea fibre place it in the first position among vegetable fibres; it is second to none in strength, while the fineness or attenuation of the fibre places it before flax, and it is equalled only by the pine-apple fibre. It can be used for any textile purpose, having been mixed with cotton, wool, and silk to advantage; it is in special demand for sailcloth, table napery, curtains, and tapestry; but from the

very limited supply as yet available, the applications of this beautiful fibre are yet in their infancy.

Ban rhea, or Bun rhea, or Bon rhea is the jungle rhea of the Lepcha of Nepal, and is supposed by some to be the Dom rhea or China nettle in an uncultivated or wild state. But of this there is no proof, and it is more than probable that it is a distinct species of *Boehmeria*, possessed of many of the same properties as the rancee or rhea nettle. It grows very common in all the Assam province, but it is cultivated largely by the hill tribes on the west of Yunnan, and to a small extent by the Singpho and Dhoannen tribes of the North-Eastern Frontier of India, to be fabricated into a coarse cloth, but chiefly for nets. A five-inch rope of rhea fibre and one of Bon rhea each broke within a few pounds of each other, after sustaining a weight of more than nine tons. It is reported to be all that can be desired for either canvas or lines, and only requires to be known to be generally used for that purpose. The Bon rhea thrives best in the vicinity of water or of running streams. When unmolested, it grows into a tree, but by proper management of it any quantity of young shoots can be obtained; and as the divided roots of the plant afford numerous shoots, it can be propagated by slips as well as by the seed. This fibre is about 5 feet in length, brown in colour, strong and flexible.—*Roxb.*; *Voigt*; *Royle's Fib. Plants*; *Dr. McGowan*; *Theophile Muermann on Ramie*, 1874; *Dickson's Fibre Plants*; *Cal. Bot. Garden Report*, 1880; *Society of Arts Jo.* See Jute; Musa.

RHEA AMERICANA, the ostrich of the New World, is abundant in the pampas of La Plata and the adjoining states of South America, where it forms one of the most characteristic features of the scenery. It differs essentially from the true ostrich of the deserts of the Old World in its smaller stature, and in having three toes instead of two. Its habits in a state of nature have been well described by Mr. Darwin and other naturalists. There are now known three distinct species of this form of *Struthion* birds.

RHEEDE. Henry Van Rheede was Governor of the Dutch Possessions in Malabar. The *Hortus Malabaricus*, a botanical work in 12 vols. folio, was undertaken at his suggestion. The specimens were collected in 1674 and 1675 by Brahmans, and sent to Cochin, where drawings of them were executed by Matheus, a Carmelite missionary; corresponding descriptions were at the same time made in the Malabar language, which were afterwards translated into Portuguese by Emanuel Carneiro, a Cochin interpreter, and from that into Latin by Hermann Van Douep, the secretary to the city of Cochin; the whole was under the superintendence of Casarius, a missionary there. The work was published at Amsterdam between 1686 and 1703, in 12 volumes folio, with 794 plates, and was edited by Commelyn, who added occasional remarks on the plants.—*Wight's Prodromus Floræ*, i. p. 7; *H. et Th.* p. 45.

RHEMBA, in Hindu mythology, one of Indra's court, who corresponds with Venus, the goddess of beauty. Rhemba was produced from the froth of the churned ocean.

RHENIUS, an eminent Protestant missionary, who arrived in A.D. 1818, and laboured in the Tamil-

speaking parts of the Peninsula of India during the early part of the 19th century. In 1815 he engaged in revising the version by Fabricius of the Bible, and in 1816 completed his translation of the New Testament, completing a second revision in 1827, and a third revision in 1831. He revised also the translation by Fabricius of the Old Testament, and died A.D. 1837.

RHEUM, a genus of plants belonging to the natural order Polygonaceæ. Several species grow in the N.W. Himalaya, and the roots of some of the species, known as rhubarb, are valuable in medicine. One species grows in Kaghau, where it is known under the name of Chotial. *R. capicum*, Fischer, is a plant of the Altai; *R. compactum*, Linn., grows in Tartary and China; *R. crassinervium*, Fischer, has heart-shaped leaves; *R. leucorrhizon*, Pullas, a plant of Tartary, is supposed to yield some of the best rhubarb of commerce; *R. palmatum*, Linn., grows near the great wall of China and in the Himalaya; *R. rhaponticum*, L., grows north of the Caspian; *R. ribes* is the Riwash of Persia; *R. spiciforme*, Royle, grows in Kanawar and in the N.W. Himalaya; *R. undulatum*, Lam., is a plant of China and Siberia; *R. Webbianum*, Royle, grows at 12,000 feet on the Chur mountain. Dr. J. L. Stewart says that at least two species of rhubarb are frequent in parts of the Panjab Himalaya, from 6200 to 14,000 feet, *R. Moorcroftianum* occurring still higher, from 15,000 to 17,000 feet. The official ribas of the Panjab drug-sellers consists of the dried stalks from Kābul, which may partly be produced by the Rivas, or *R. ribes*, Gron., a native of Carmel, also Eastern Persia, and the Hindu Kush. In Afghanistan the plant is always wild, and appears to grow abundantly in many parts. When green, the leaf-stalks are called riwash, and when blanched by heaping up stones and gravel round them, are called chukri; when fresh (in which state they are sometimes brought to Peshawur in spring), they are eaten either raw or cooked, and they are also dried for use to be eaten with other food, and are sometimes made into a preserve. The root is imported into Afghanistan and India, to be used as a purgative. It is stated by Moorcroft that the Bhotia of Garhwal apply the powdered root to wounds and bruises, and that they use it with *Rubia cordifolia* and potash for dyeing red. *R. emodi*, Wall., *R. Moorcroftianum*, Meisn., *R. spiciforme*, Royle, yield the official rhubarb root. The genus has many useful plants.

Rheum australe, Don.

R. emodi, Wall. | *R. Webbiana*, Royle.

A plant of the N.W. Himalaya up to 16,000 feet. It is less active as a purgative, and more spongy in texture. Honigberger mentions that it vegetates in wild luxuriance on the Kashmir mountains, is considered as one of the best rhubarbs, notwithstanding the coarse appearance of its exterior, and it can be had fresh and cheap in any quantity, and at any time.

Rheum Moorcroftianum, Meisn., was found by Moorcroft near the Niti pass in the Himalaya at an elevation of 12,000 feet. The root yields a valuable medicine (chukri), while the leaf-stalks are agreeably acid and cooling; 'tror' are eaten as a vegetable.

Rheum officinale, Boullén, W. China and E. Tibet, Turkey.

Rheum palmatum, L., rhubarb.

Khagi,	ARAB.	Chukri, Ribas, . . .	PANJ.
Ta-rok-tsha, . . .	BURM.	Variatu kalang, . .	TAM.
Reward Chini, . .	HIND.		

The stalks are extensively eaten in Kābul. The root is used by Europeans as a stomachic and astringent in small doses, and as a purgative in larger ones, especially in dyspepsia and strumous affections. A variety from the Tanqut country yields the Kiakhta or Kan-su rhubarb of Maximowicz.

Rheum rhaponticum, Linn., *R. tataricum*, L. f., and *R. undulatus*, Linn.; their acidulous leaves and unexpanded flower mass are used for culinary purposes.—Powell; Honigb.; Cleghorn, Report; Stewart; Royle's Ill.; Moorcroft's Tr.; Von Mueller. See Rhubarb.

RHI of the Byansi or Hiuira, an avalanche.

RHINACANTHUS COMMUNIS. Nees.

Justicia nasuta, Roxb.

Jui pani, Jui pona, BENG.	Pul-coll, . . .	MALEAL.
Tong-pang-chong, . CHIN.	Puekolli, . . .	
Palek julu,	Naga mulli, . .	TAM.
Kabutar ka-jahr, . .	Pilkolu,	TEL.

Grows throughout British India, where it is used as a remedy in snake-bite, and the root as an excitant. A tincture of the fibrous root is used in ringworm.—O'Sh.; Riddell; Irvine.

RHIND, a great race of 44 clans dwelling in Gandava in Baluchistan. They are not of the Brahui stock, and their traditions allege that they immigrated ages ago from Damascus and Aleppo. Their language is the Jetki, in common with that of the other inhabitants of Cutch Gandava, and Mard-i-Rhind means a brave man. Gandava is a great level tract, inhabited by three very distinctly marked races, the Jet or Jat; the Rhind, including the Magbazzi; and the Brahui. The Jat seem the original race, and they occupy the centre of the province. The Rhind, with their lawless sub-tribes the Jakrani, Dumki, Bugti, and Murree, are a more recent intrusive race dwelling on the skirts. The Doda, a division of the widely dispersed great Murree tribe, have, for the last three centuries, occupied the hill ranges east of the plain of Cutchi. The Murree are a brave race, and have long been distinguished as daring depredators. Harand and Pajil, in Cutch Gandava, but bordering on the Indus, are inhabited by the Gurchani tribe of Rhind, and have the Mazari on their south. The Rhind of Cutch Gandava are of the Utanzai division. The Rhind clans reside as under:—

Utanzai, at Suran.	Homorari, at Tambu.
Dumki, at Lehri.	Fushiki, at Johān.
Jakrani, at Lehri.	Jamali, at Rojan.
Doda Murree, at Kahan.	Kallui, at Lup.
Mandarari, at Rodbar.	Kuchik, at Kirta.
Bugti, hills E. of Lehriat.	Pugh, at Kajuri.
Sing Soloh, at Teriki.	

The Dumki, Jakrani, Bugti, and Doda Murree were always distinguished by their rebellious and predatory habits; they indulged these in attacks on the British armies west of the Indus. The Murree tribe is considerable, and inhabit the eastern hills of Cutch Gandava, and a peaceful and obedient portion of the tribe are in the hills west of the province below Jell. A large portion are at Adam Murree, on the S.E. frontier of Sind. The Murree of Cutch Gandava were notorious for their lawless habits, and for making frequent inroads on the plains. They and the Magbazzi seem to have

emigrated from Makran to Cutch Gandava at different periods, and to have become incorporated with the Jat cultivators. The minor Rhind tribes residing in the north-eastern hills of Saharawan are the—

Kallui, at Lup.
Kuchik, at Kirta.
Pushkh, at Johan.

Mandarari, at Rodbar.
Pugh, at Kajuri.

The Gurchani inhabit Harand, and south of these are the predatory but nearly independent Mazari tribe. The Maghazzi are subdivided into four principal families or clans, of which the Butani of Jell are the most important, and give the chief or sirdar to the whole. They boast of being able to muster 2000 fighting men, and between them and the Rhind a blood-feud long existed. The Maghazzi and Rhind are alike addicted to the use of ardent spirits, opium, and bhang. The Bugti are on the west bank of the Indus near Shikarpur in the east of Leharat.

RHINIDÆ, a family of fishes. *Rhina squatina*, L., occurs in all seas.

RHINOBATIDÆ, a family of fishes, as under :

Rhynchobatus ancylostomus, Bl., *Schn.*, E. Indies.
R. Djeddensis, Forsk., Red Sea, Indian Ocean, Archipelago.

Rhinobatus thouini, Lacep., Archipelago.

R. spinosus, Gthr.

R. halavi, Forsk., China, Red Sea.

R. granulatus, Cuv., E. Indies, Archipelago, Australia.

R. Philippi, M. and H.

R. obtusus, M. and H., E. Indies.

R. Schlegelii, M. and H., Japan and China Seas.

R. Banksii, M. and H., Australia.

R. columnæ, M. and H., Indian and Atlantic Ocean, Mediterranean.

R. Blochii, M. and H., Cape.

R. brevisrostris, M. and H., S. Australia.

Trygonorhina fasciata, M. and H., Australia.

RHINOCEROS, a genus of mammals belonging to the family Rhinocerotidae, of which four or five species occur in Africa and in the East Indies,—*R. Indicus*, the great Indian rhinoceros; *R. Sondaicus*, the lesser Indian rhinoceros; and *R. Sumatranus* of Assam, Sandoway, and Sumatra. The rhinoceros was in Sind and the Panjab at least as late as Jordanus' time, and in Peshawar province 200 years later, to the time of Baber. The rhinoceros has been found fossil in Ava and Perim. Rhinoceros' hide is made into shields, sword handles, and ramrods, and its horn into goblets and drinking cups. Mr. Blyth has identified the two-horned rhinoceros of the Tenasserim Provinces with *Rh. Crossii*, Gray, and he refers the species to *Rh. Sumatranus*, auctorum, which attains a development of horn hitherto unsuspected. The skull of a one-horned rhinoceros shot by Dr. Hook near Tavoy Point, where there is a small isolated colony of the species, is that of *Rh. Indicus* and not *Rh. Sondaicus*. Seemingly all the species of rhinoceros attack the watch-fires of travellers. Fine horns of the Asiatic two-horned rhinoceros are difficult to procure, as they are bought up at extravagant prices by the Chinese, who call them Si-koh and Si-niu-koh, and their skins Si-pi. The inhabitants of the forests of Chantaburi chase wild beasts with firearms and nets; but they attack the rhinoceros armed with solid bamboos, of which one end has been hardened by exposure to the fire and sharpened. By loud cries and clapping their hands, they invite the animal to meet them, which he is wont to do by rushing violently

upon them, opening and closing his wide mouth; they attack him in front, and drive the bamboos violently into his throat with surprising dexterity, taking flight on all sides. The animal, in its agony, throws itself on the ground, and, becoming exhausted by the effusion of blood and the extremity of its suffering, it soon becomes the prey of its courageous assailants. In their hunting expeditions, all the passages to a district are closed with nets, and, fire being applied to the jungle, the wild animals are destroyed as they seek to escape. The hairy-eared rhinoceros is the *Rhinoceros lasiotis*. A nearly adult female specimen, 'Begum,' as she is called, was captured near Chittagong, in British Burma, by some officers employed in the Kheddah department for the capture of elephants. In January 1872 she was brought to England by Mr. W. Jamrach, a well-known dealer in living animals, and purchased by the Zoological Society for the sum of £1250. The skin of the rhinoceros is made into a jelly by the Chinese.

Rhinoceros horn is the Si-koh and Si-niu-koh of the Chinese. Cups are made of the horn, which are imported from India, Cochinchina, Siam, Sumatra, Sze-chuen, Kwei-chau, and Kansuh. The black and pointed horns are most esteemed.

Rhinoceros Indicus, Cuv., Blyth.

R. unicornis, L.

R. Asiaticus, Blume.

R. inermis, Lep.

Gor, ASSAM. | Ganda, Genra, . . . HIND,
Genda, Gonda, . . . HIND.

The unwieldy great Indian rhinoceros, or small-horned rhinoceros, has one horn; it is found in the forest swamps and dense jungles at the foot of the Himalaya, in the Terai from Rohilkhand, in the Nepal Terai and Sikkim Terai from Bhutan to Nepal, but is most abundant in Assam and the Bhutan Dour. Its length is from 9 to 12 feet, and its height $4\frac{1}{2}$ to 5 feet; horn occasionally 2 feet. It is herbivorous.

Rhinoceros Sondaicus, Sol., Muller, Blyth.

R. Javanicus, F. Cuv. | Lesser Indian rhinoceros.

Warak, JAV. | Badak, MALAY.

This species has one horn, and is 7 or 8 feet long, and $3\frac{1}{2}$ to $3\frac{3}{4}$ feet high. It inhabits the Bengal Sunderbuns in the forest tract along the Mahanadi river, and extending northwards towards Midnapur and on the northern edge of the Rajmahal Hills near the Ganges. It occurs also abundantly in Burma and through the Malayan Peninsula to Java and Borneo.

Rhinoceros Sumatranus, Rafles. *R. Sumatrensis*, Cuv. The Sumatran rhinoceros is not confined to that island, but occurs in the Indo-Chinese territories, in Assam, and from Sandoway, in lat. 23° N., to Sumatra. It has two horns. Dr. Oldham, while with the embassy to Ava, shot one which attacked his watch-fire.—Blyth in *J. B. As. Soc.*; *Jerdon's Mammals*; *Horsfield*, p. 195; *Wallace's Archipelago*; *Ibn Batuta*, iii. p. 100; *Baber*, pp. 292, 316; *Journ. Asiat. Soc.* i. tom. ix. p. 201; *Petit de la Croix*, *Timur*, p. 158; *Yule*, *Cathay*, i. p. 194; *Bouring's Siam*, i. p. 26; *Gray*, *P. Z. S.* 1854; *Phil. Tran.*, 1793; *Smith's Chin. Mat. Med.*

RHINOLOPHUS, a genus of bats of the subfamily Rhinolophinae. Several species occur in

RHINOPOMA HARDWICKII.

the East Indies. Drs. Jerdon, Kelaart, and Horsfield mention the following :—

- R. *affinis*, var. *rubidus*, *Kel.*, Ceylon.
- R. *brevitarsus*, *Blyth*, Darjiling.
- R. *fulvidus*.
- R. *macrotis*, *Blyth*, Nepal, Mussoori.
- R. *mitratus*, *Blyth*, Central India, Mussoori.
- R. *Pearsoni*, *Horsf.*, Darjiling, Mussoori.
- R. *per-niger*, *Hodgs.*, Malabar, Himalaya?
- R. *Rouxii*, *Blyth*, all India.
- R. *sub-badius*, *Hodgs.*, Nepal, Himalaya.
- R. *tragatus*, *Hodgs.*, Nepal, Mussoori.

These bats are said to hang with their body rolled up in their wings like a mantle. Their nose is furnished with a complicated apparatus, consisting of a cordate or semi-orbicular leaf.

RHINOPOMA HARDWICKII, *Gray, Blyth*, the long-tailed leaf bat, is found over almost all India, in Burma and Malayana, in old ruins, caves, and clefts of rocks.—*Jerdon*.

RHIO, a Dutch settlement on the eastern side of the Malay Peninsula, was obtained by them about the year 1817, from the king of Johore, for a monthly payment of 4000 guilders. Rhio Island, bordering the Straits of Rhio, is about eight or nine miles in circumference, and being separated from the mainland of Bintang by Rhio Strait, a very narrow channel, appears to form part of it. The town of Rhio stands on its north-west point, and was formerly a port of great trade, and seems still to enjoy a considerable traffic by small vessels. The little trade enjoyed by the settlement is chiefly with Java, several native vessels arriving annually from that island, which bring rice for the supply of the inhabitants, gambier being taken in exchange. The population in 1882 was 87,767, of whom 22,925 were Chinese.

RHIPIDURA ALBOFRONTATA, one of the fly-catchers of India. In habits it resembles the broad-tailed species, but the clearness of the white on its body and forehead suffices to distinguish it from the broad-tailed fly-catcher. *Rh. fuscoventris* is plentiful in gardens and wooded localities. It is not shy for its size, but is bold and fearless, and will attack birds much larger than itself. The song of the male consists of a few loud and pleasing notes, uttered while the little creature is dancing along the branch with tail and wings expanded like a fan.—*Adams*.

RHIZOPHORACEÆ, *Lindl.*, the Rhizophoraceæ or mangrove tribe of plants, consists of trees, rarely shrubs, natives of salt swamps and marshes of the tropics, where they root in the mud, forming dense, most unhealthy, jungles down to the very edge of the ocean. The mangrove tribe comprises the genera *Rhizophora*, *Ceriops*, *Kandelia*, *Bruguiera*, *Carallia*, *Anisophyllea*, *Gynotroches*, *Weihea*, and *Blepharistemma*. The coasts of the Bay of Bengal and of the Indian islands, also the mouths of the Indus, abound in mangrove. The bark has been used for tanning purposes, for which it is probably more suitable than for cordage. The bark of *Kandelia Rheedii* is used by the Tavoy women in dyeing red, but Mason thinks only as a mordant. A species, called *Kadol* by the Singhalese, is found in the western and northern provinces of Ceylon, chiefly near the mouths of the rivers. Its wood weighs 65 lbs. to the cubic foot, and is used for common house-building purposes. A dye is extracted from the bark, and used for colouring leather, nets, sails, etc. Another Ceylon species, *Hiri-koddol*, *Singh.*,

RHIZOPHORA MUCRONATA.

grows in the western and northern provinces of Ceylon, and it also is used for common house-building purposes. A cubic foot weighs 49 lbs. A dye is extracted from the bark.—*Royle's Fib. Pl.*; *Mason*; *Mr. Mendis*; *Roxb.*; *Voigt*; *Gamble*.

RHIZOPHORA CONJUGATA. *Linn.*

Rhizophora candelaria, *W. & A.* | *Pyu.* . . . **BURM.**

A small tree of Ceylon, Malabar, Tenasserim, and Java. Fl. middle-sized, white, faintly scented.

RHIZOPHORA GYMNOHIZA. *Rheede.*

Hendeb kakora. . . **BENG.** | *Kayu-api-api.* . . **MALAY.**

This tree grows to a considerable size where the spring tides rise over it, as in the delta of the Ganges. The pith of the wood, boiled in palm wine or with fish, is used as food. The wood is of a yellowish colour, hard, and durable. Its chief use is for fuel and for posts with which to construct the native houses. The seeds of *Rh. gymnohiza* and *Rh. mangle* germinate on the branches, and, after increasing to a considerable length, fall into the mud, where they stick with their sharp point buried in the mud, and soon take root. The roots of these trees, springing from the trunk and lower branches, form a complicated series of loops and arches from five to ten feet high, making an incomparable breakwater. The bark and roots of both these species serve for tanning leather and as a black dye.

RHIZOPHORA MANGLE. *Reede.*

Opopompa, *Bhora*, **BENG.** | *Pee-kandel.* . **TAM., TEL.**
Manggi-manggi. . **MALAY.**

This, the common black mangrove, is abundant on the shores of the ocean, within the delta of the Ganges, and in plenty at Arakan, Malabar, Singapore, and the Archipelago. The wood is dark-red, hard, and durable. In the Archipelago, a belt of it as deep as the reach of the tide wherever there is a shallow and muddy shore, rising to the height of 40 or 50 feet, and constituting a dense, almost impenetrable, forest. Each tree stands in a cradle of its own roots from five to six feet high, bare at low water, but at high water covered so as to give the appearance of trees growing in the sea. A mangrove jungle is the favourite resort of mosquitos and crocodiles, and affords a convenient and almost inaccessible retreat to the pirates. The bark is used to dye chocolate colour. This was one of the colours introduced by Dr. Bancroft, and for the exclusive use of which he obtained an Act of Parliament. The great length of the seed of this species gives, in a very short time, a young tree, for if the apex from which the root issues is only stuck a little way into wet soil or mud, the leaves quickly unfold at the opposite end.

RHIZOPHORA MUCRONATA. *Lam.*

Rh. mangle. *Linn.* | *Rh. macrorrhiza.* *Griff.*

Rh. candelaria, *W. and A.*

Bhora. . . . **BENG.**

Uppu-ponna? . . . "

Manggi-manggi? **MALAY.**

Kayu api api? . . . "

Pukandel. . . . **TAM.**

Adavi ponna. . . . **TEL.**

Pukandel. . . . "

Uppu ponna. . . . "

Grows in Madagascar, Mauritius, Arabia, at Trincomalee, Calpentin, Negumbo, and other parts of the Ceylon coast, along with *Rh. conjugata*, also in Malabar, the Sunderbuns, and Java. The wood is dark-reddish, hard, and durable. Weight, 70 to 75 lbs. per cubic foot. The flowers are large, white, and sweet scented. Bark used for tanning.—*Roxb.*; *Voigt*; *Thur.*; *W. Ic.*; *Crawford, Dict.*; *Rohde, MSS.*; *Gamble*.

RHIZOSTOMA, one of the *Acalephæ*, used by the Chinese as food. They solidify it by rubbing it over with alum.

RHODIA, an out-caste race in Ceylon, little numerous, forbidden to approach a temple or any of the higher castes. According to one tradition, these scarcely civilised beings were hunters who, on the eve of a solemn occasion, failing to obtain game, etc., murdered a child and sent its dismembered body to the king; but another tradition is to the effect that this caste persisted in eating beef after its use as food had been prohibited. The native laws forbade a Rhodia to approach a temple of Buddha or the gods, to build houses, or to live in any abode enclosed within walls,—and even to this day their dwellings are mere sheds,—nor even to cultivate the soil or possess land. They were forbidden to approach, much less to touch or breathe upon, a caste man; and all things they touch are unclean. The men wander about in parties or tribes seeking their precarious subsistence. Their women perform feats of legerdemain, and tell fortunes, their want of chastity being proverbial. Their numbers do not exceed a thousand, and they are principally in the Kandyan province, at Saffragam, Donbera, Wallepane, etc. Nominally Buddhists, they are also devil-worshippers. Rodeya or Rodda, in Singhalese literally means filth. In their social degradation, they resemble the Cagots and Caquex, who from time immemorial have been held in abhorrence in the valleys of the Pyrenees and the plains of Bretagne, Poitou, and Guienne. They are living in small communities in kuppams or hamlets in different parts of Ceylon, but their language, customs, and observances are identical. They were formerly compelled to remain aloof from all other inhabitants, and even yet their very shadow is avoided, and held to contaminate and render impure any object on which it may happen to fall. They are mat weavers, beggars, thieves, and scavengers, and fall on their knees with up-lifted hands before any Singhalese.—*Sirr's Ceylon*, ii. p. 215.

RHODODENDRON, a genus of plants belonging to the *Ericaceæ*. There are many species in the mountainous regions of the E. Indies, the better known being *Rh. anthopogon*, *arboreum*, *campanulatum*, *Aucklandii*, *Blandfordiaeflorum*, *Campbellii*, *Edgeworthii*, *Falconeri*, *grande*, *formosum*, *Hodgsoni*, *Maddenii*, *pusicicum*, and *purpureum*. Perhaps the most gorgeous of the native plants of Borneo are the various species of *rhododendron*, which there assume a peculiar form, being found piphytal upon the trunks of trees. A species known as Brah in the N.W. Himalaya bears a bright red flower. Its wood is soft, used for charcoal and in zamindars' buildings. At Laghep, near Tumlung, Dr. Hooker gathered, in two days, seeds of 24 kinds, in the following order in ascending:—

Commencing at 6000 feet—*Dalhousiæ*, *vaccinioides*, *camelliæflorum*, *arboreum*.
Above 8000 feet—*argenteum*, *Falconeri*, *barbatum*, *Campbelliæ*, *Edgeworthii*, *niveum*, *Thomsoni*, *cinnabarinum*, *glaucum*.
Above 10,500 feet—*lanatum*, *virgatum*, *campylocarpum*, *ciliatum*, *Hodgsoni*, *campanulatum*.
Above 12,000 feet—*lepidotum*, *fulgens*, *Wightianum*, *anthopogon*, *setosum*.

Several species occur a little north of Cherra. On the hill above Choongtam village, in Sikkim,

Dr. Hooker gathered, at 5000 to 6000 feet, *Rh. arboreum* and *Dalhousiæ*, which do not generally grow at Darjiling below 7590 feet. Dr. Hooker collected here ten kinds of *rhododendron*, which, however, are not the social plants that they become at greater elevations. Still, in the delicacy and beauty of their flowers, four of them, perhaps, excel any other; they are *Rh. Aucklandii*, whose flowers are five inches and a half in diameter; *Rh. Maddenii*, *Rh. Dalhousiæ*, and *Rh. Edgeworthii*, all white-flowered bushes, of which the two first rise to the height of small trees. In the Tonglo mountains, in Sikkim, the trees in order of prevalence were—the scarlet *Rhododendron arboreum* and *barbatum*, the latter 30 to 40 feet high, as large as bushy trees, both loaded with beautiful flowers and luxuriant foliage; *Rh. Falconeri*, in point of foliage the most superb of all the Himalayan species. Next in abundance to these were shrubs of *Skimmia*, *Laureola*, *Symplocos*, and *Hydrangea*, and there were still a few purple magnolias, very large *Pyri*, like mountain-ash, and the common English yew, 18 feet in circumference, the red bark of which is used in Nepal as a dye and for staining the foreheads of Brahmans.

Rhododendron anthopogon. Poh, BHOT. It flowers in June; the whole plant is very fragrant, and is exported to Humes for the Lamas, who use it for incense. This and *Rh. setosum* are two dwarf species with strongly scented leaves, and occur at an elevation of 12,000 feet near Wallanchun in East Nepal.

Rhododendron arboreum, Urv.

Mandal	of CHEN.	Urval	JHELM.
Brah, Bras, Broa,	DEAS.	Chiu, Dru,	RAVI.
Chicheon,		Mu-ratmal,	SINGH.
Tree rhododendron,	ENG.	Bilbe, Poo-maram, . .	TAM.
Burans,	HIND.	Trikh,	TR-INDUS.
Ardawal,	JHELM.	Gandere,	"

This very gorgeous tree grows up to 8000 feet in the alpine Panjab, and in the mountains in the south of India. It has lanceolate leaves, acute silvery beneath, tapering to the base. It is one of the most beautiful of all trees, but too delicate to bear the open air in England. It is very common all over the Neigherry Hills, either forming small clumps or dotted about. It grows 20 feet high, having a gnarled trunk and deep crimson flowers, in masses. The variety *roscum*, of *Rh. arboreum*, grows to the height of thirty and forty feet, in Sikkim, bears bright red, sub-acid flowers, which are made into jelly; wood brown, soft, used for charcoal and in zamindars' buildings; tree gives posts 6 inches in diameter.

Rhododendron argenteum, the white-flowered rhododendron, is found in Sikkim at an elevation of 8671 feet. It is a tree 30 feet high, having leaves very beautiful in the leaf-buds, erect and silky. The flowers are 2 to 3 inches long, 2 to 2½ inches in diameter, always white. The scarlet rhododendron (*Rh. arboreum*) is outvied by the great *Rh. argenteum*, which grows as a tree forty feet high, with magnificent leaves twelve to fifteen inches long, deep green, wrinkled above and silvery below, while the flowers are as large as those of *Rh. Dalhousiæ*, and grow more in a cluster. Few plants exceed in beauty the flowering branch of *Rh. argenteum*, with its wide-spreading foliage and glorious mass of flowers.

Rhododendron aromaticum. Its leaves, called *Talesfur*, are highly fragrant and stimulating; they are brought from Kábul.

RHODODENDRON.

Rhododendron barbatum, *Royle*, a tree from 40 to 60 feet high, branched from the base. It is one of the most beautiful of the Himalayan species, and is readily distinguished by its having bristly petioles and numerous branches floriferous at their apices. Dr. Adams observed the hill-sides covered with the scarlet-flowered *Rhododendron barbatum* in full blossom.

Rhododendron campanulatum, *D. Don*.

Shargar, . . . BEAS.	Simber, . . . PANJ.
Takalin, . . . BHOT.	Sirgar, . . . RAVI.
Gaggaryurmi, . . KANGRA.	Shinwala, . . . "
Buronj, Burans, . KHAS.	Shin-rung, . . SUTLEJ.
Chumresh, . . . PANJ.	Bre? Kath? . . TIBET.

Leaves.

Tamaku, . . . HIND.	Barg-i-Tibet, . . KASH.
Hulas, . . . KASH.	Patti, Patr, . . . "
Talespatr, Nik, . . . "	

Is found in the Sutlej valley between Rampur and Sunnam at an elevation of 10,000 to 14,000 feet. It vegetates on the Kashmir mountains; its leaves are official in Kashmir and Lahore, where they are administered as errhine, to produce sneezing. The leaves are imported from Tibet and Kashmir, under the names Barg-i-Tibet and Hulas-i-Kashmiri, and are used by the Kashmir natives as a snuff. Its bark is used for paper-making; the plant is very abundant.

Rhododendron cinnabarinum, the Kema Kechoong of the Lepcha (Kema signifying *Rhododendron*), is said to be poisonous, and when used as fuel it causes the face to swell and the eyes to inflame; of this Dr. Hooker observed several instances.

Rhododendron Falconeri, a white-flowered species, never occurring at less than 10,000 feet above the level of the sea, is one of the most striking and distinct of the genus. It occurs in East Nepal, and in point of foliage this is the most superb of all the Himalayan species, with trunks forty feet high, and branches bearing at their ends only, with leaves nineteen inches long. These are deep green above, and covered beneath with a rich brown down.

Rhododendron Hodgsoni. Its foliage is of a beautiful bright green, with leaves sixteen inches long. Its bark is as delicate as tissue paper and of a pale flesh colour.

Rhododendron epilotum, alpine *rhododendron*.

Tauma, . . . of BHOT.	Talsur, . . . PANJ.
Talesfar, . . . N. INDIA.	Taaluma, . . . "

This is found in the Sutlej valley between Rampur and Sunnam at an elevation of 10,000 to 14,000 feet. Leaves highly stimulant.

Rhododendron nivale spreads its small rigid branches close to the ground. It is the most alpine of woody plants, and was found by Dr. Hooker at an elevation of 17,500 feet.

Rhododendron puniceum, a common tree on the lower ranges of the Himalaya; the bark, called Kaephul, is brought to Ajmir from Delhi and Mirzapore, and is used as a rubefacient and sternutatory. Dr. Irvine found Kaephul and pounded ginger, mixed, the best substance with which to rub cholera patients to promote reaction; one maund costs five rupees. The fresh flowers are pleasantly acid, and are eaten by the hill-men to quench thirst during their ascent of the hills; the flowers are also made into a jelly.

Rhododendron Wallichii is a very distinct and

RHUBARB.

handsome species, with lilac-coloured flowers. Its leaves are quite unlike any Indian species, and the flowers in colour and size resemble those of the much-cultivated *Rh. ponticum*.—*Royle, Ill.; Hooker, Journ. and Sikkim Rhodod.; Adams, Naturalist; Cleghorn, Rept.; J. L. Stewart; Eng. Cyo.; Honig.; Beddome; Irvine; Voigt; Low's Sarawak*, p. 65.; *W. Ic.*

RHODYMENIA JUBATA. *Grev.* One of the sea-weeds, a genus of the order Ceramiales.

RHUBARB, Rheum radix.

Rewund Sini, . . AR., PERS.	Reon, . . . GR. of Dios.
Ta-hwang, . . . CHIN.	Rewundchini, . . HIND.
Hwang-liang, . . . "	Rewen, . . . RUS.
Ho-san, . . . "	Variattu kalatgu, . . TAM.
Tahoan, . . OCH.-CHIN.	

The rhubarb of commerce is obtained from a wide extent of country, from Ladakh, in long. 77° E., to the Chinese province of Shen-si, 29 degrees farther east, and it receives distinguishing names according to the country from which it is exported. The names given to it by the European nations are modifications of rhubarb. About 50 tons are annually imported into Britain.

The *Turkey rhubarb* of commerce is called also Russian rhubarb, but in Russia is called Chinese rhubarb; it is imported into the frontier town of Kiachta, thence into Moscow and St. Petersburg, whence it is distributed to the rest of Europe.

Bucharian rhubarb makes its way to Vienna by Brody and Nischny, and is supposed to be the inferior sorts of *Turkey rhubarb*.

Chinese rhubarb, called also East India rhubarb, is produced in the mountains of Kan-su, but comes into the market in the three forms of Dutch trimmed or Batavian rhubarb, half-trimmed or Chinese rhubarb, and Canton stick rhubarb.

Siberian rhubarb, called also Siberian rhapontic root, is supposed to be the product of *R. rhaponticum*.

Himalayan rhubarb is a product yielded by *R. Moercroftianum*, *Royle*, by *R. Wobbianum*, *Royle*, and *R. spiciforme*, *Royle*. A variety of rhubarb, termed *riwash*, is more or less plentiful in all the hills from Kalat in Baluchistan to Kandahar, and again from that place to Kabul. Attention is paid to its growth only by the inhabitants of Lughman, who supply the bazars of the city of Kabul. They surround the choicer plants with conical coverings of stones, so as to exclude light and air, and thereby produce that whiteness of stem so much prized. The unblanched plant is called *chukri*, and is also exposed to sale. It makes an excellent preserve, by being first saturated in a solution of lime and then boiled with shirar, or the inspissated juice of grapes, losing, however, in this case, its characteristic flavour. Rhubarb grows in abundance and to a large size in Barmor, and the valley through which the Kavi and its tributaries flow before reaching Dalhousie. A smaller variety, deemed by the natives to be superior in quality, grows in the crevices of the gneiss rocks forming the peaks above Dharmasala. The common dock, *Rumex obtusifolius*, is not so conspicuous in the waste places of a highland glen as is the official rhubarb on the bare rocks in the valley of Asrang. It extends five or six miles down the valley, and ascends the slope to 500 feet above the river's bed. Captian Houchen and the Lama of Asrang said that it is equally abundant in the adjoining valley of Dingering. The following

are four Himalayan species:—*R. emodi*, *Wall.*, Pindree glacier, etc.; *R. Webbiana*, *Royle*, Chur mountain; *R. spiciforme*, *Koyle*, Werang pass; *R. Moerocroftianum*, *Royle*, Niti pass, and yield part of the Himalayan rhubarb. The *Pen-ts'au*, a Chinese work on medicines, places rhubarb at the very head of poisonous plants, and undoubtedly Chinese rhubarb, in China, is a very poisonous drug, causing severe purging and some prostration. It grows in Kink-chau-fu, in Hu-peh-li; Sui-teh-chau, in the N.E. of Shen-si; Lung-si-hien, in Kan-suh; Mau-chau and Ching-tu-fu, in Sze-chuen. —*Voigt*; *Smith's Mat. Med.*

RHUS. Of this genus of plants some species are poisonous, as *R. venenata*, *perniciosa*, *radicans*, and *toxicodendron*; but they are much cultivated as ornamental shrubs, especially on account of the beautiful red colour of their leaves in autumn. Many of them are used for the purposes of dyeing and tanning, as an astringent principle, to which is frequently added an acid, is common to the whole genus. *R. suaveolens* and *R. aromatica* exhale a pleasant odour; and some have acid berries, as *R. coriaria* and *R. Buckianella*. *Rhus cotinus* has wood, called young fustic, which, as well as the berries, is astringent, and *R. coriaria*, known by the name of sumach, is a powerful astringent, chiefly employed in tanning leather. The seed of *R. parviflora*, tunt-reck, is frequently substituted in India for that of the sumach. *R. glabra* is considered a febrifuge. *Rhus vernix*, a Japanese tree, exudes a whitish resinous juice, which soon becomes black in the air. *R. succedanea* and *R. vernicifera*, both common to the Himalaya and Japan, are said, in the latter, to yield a similar product. Species of other genera, as of *Schinus*, contain a resinous matter. A *Rhus*, the *Coongilliya maram* of the Tamils, grows in Coimbatore, very nearly allied to Roxburgh's *R. Buckianella*, but distinct. Its outer sap-wood is white, fine-grained, and heavy, apparently very good. In the N.W. Himalaya, *titar*, *titri*, and *tatri* are generic names for most of the species. Other species are *R. Griffithii*, *insignis*, *Khassayana*, *Mysorensis*, and *paniculata*. —*Royle's II. p. 179*; *Wight in M.E.J.R.*; *Thun.*

RHUS ACUMINATA. *D.C.* Sumach tree.

Arkhar, Rikhul, . . . BEAS. | Kurku, . . . KANAWAR.
Lakhar, Titar, . . . CHEN. | Kakur singi, . . .
Kakhar, . . . KANAWAR. | Arkhol, . . . KANGRA.

This tree is not uncommon in the Kashmir valley, and occurs more sparingly to the eastward from 4000 to 7000 or 8000 feet. Vigne states that the juice of the fresh leaves blisters the skin, and the Kashmirians said the same to Dr. Stewart, but on his showing that his had not been blistered, they declared it only affected those who feared it. The wood is not valued. Bears are said to eat its fruit, which seems to be the official *Habat-ul-khizra* administered in phthisis.

RHUS BUCKIANELLA. *Roze.*

R. amela, *G. Don.*; *R. semialata*, *β* Roxburghii, *D.C.*
Titri, . . . HIND. | Hulashung, . . . KASH.
Rashin, . . . KANAWAR.

Grows in Kamaon, Srinuggur, and the Peninsula of India. —*Roze*; *Voigt*; *Wight*.

RHUS CORIARIA. *Linn.* Sumach.

Tuntum, . . . ARAB. | Tatri, . . . PANJ.
Mutchlee h'sot, . . . HIND. | Shumuk, Mahi, . . . PERU.

A native of Persia, Syria, Palestine, and the south of Europe, about 8 or 10 feet high, divided

into numerous irregular branches. All parts of this plant have a styptic taste; to the abundance of tannic acid it owes its properties and value in the arts. The leaves are extensively used in Britain for tanning purposes. *M. Tromsdorf* found in the berries a large quantity of bi-malate of lime. Used by natives in cholera and indigestion. —*O'Sh.*; *Powell*.

RHUS COTINUS. *L.* *Venus sumach.*

Baura, Tung, . . . OHEN. | Ban, . . . JHELUM, KANGRA.
Titri baghuna, . . . " | Tung, . . . RAVI.
Paan, . . . JHELUM, KANGRA. | Larga, . . . SUTLEJ.
Bhan, Bana manu, . . .

A shrub of Kaghan, Himalaya, Salt Range, from 2300 to 6000 feet; grows three feet in girth. Wood yellowish, resembles that of *Pistacia integerrima*, used by the modern Greeks for dyeing wool; small twigs used for baskets, leaves and bark in tanning. —*Cleghorn*; *Stewart*.

RHUS DECIPENS. *Wight.*

Pehunbive, . . . SINGH. | Kattu puvatasu, . . . TAM.

Grows in the central province of Ceylon and in the south of India. Dr. Wight says it yields a very fine, close-grained, light-coloured wood, and, if procurable of good size, the wood must be of considerable value. —*Wight*; *Mr. Mendis*; *M.E.J.R.*

RHUS PANJABENSIS. *Hooker*, is a moderate-sized tree of the N.W. Himalaya, growing up to 8500 feet. Weight, 36 lbs. to the cubic foot.

RHUS PARVIFLORUM. *Roze.* Kakur and Tung, of the Panjab; found in the Sutlej valley between Rampur and Sunnam at an elevation of 5000 feet. Wood hard and yellow. Both this and *R. acuminata* yield beautiful wood, the native name, 'Kakur-singhee,' is from the long curved excrescences. The fruit of this species is called tantarik, and is used as medicine by the Hindus. —*Roze*; *Cleghorn*.

RHUS SEMIALATA. *Murray.* Sumach.

Hulug, Butairi, . . . PANJ. | Tung, Titar, Titri, PANJ.

A scarce tree of the N.W. Himalaya. Not so ornamental as other woods of this family. —*Cleghorn*.

RHUS SUCCEDANEA. *Linn.*

Chokla, Halashi, . . . CHEN. | Hala, Hala, Halashi, RAVI.
Nu ching, . . . CHIN. | Kakrin, Kulashing, . . .
Titar, Tatri, . . . JHELUM.

This tree appears to be found on most of the great rivers of the Panjab, from 3000 up to 8000 feet. It does not grow to a great size, nor is its wood valued. The juice of its leaves is stated to blister the skin. Its seed yields, on being pressed, an oil which soon congeals to the consistency of tallow, called Japan wax, from which in Japan candles are prepared. It is a substance of medium consistence between beeswax and the ordinary vegetable tallow. It is softer, more brittle and fatty than beeswax, is easily kneaded, and melts between 40° and 42° C. It contains twice as much oxygen as beeswax, and has a different composition, consisting of palmitic acid united with oxide of glycerite. It has been used in England as a substitute for wax and for hard neutral fat, and, after conversion with the acid, both for candles and night lights. —*Roze*, ii. p. 98; *Cleghorn's Report*; *Elephant*; *Thunberg*, Tr. iv. p. 98; *Smith's Mat. Med.*

RHUS VENENATA. *D.C.* The poison sumach, or swamp sumach of North America and Japan, is so exceedingly poisonous that it is said to affect some persons by merely smelling it; a touch will

sometimes produce violent inflammation. It is a beautiful shrub, and well worthy of cultivation, but great care should be taken to prevent its being carelessly handled.

RHUS VERNICIFERA. D.C.

Rhus juglandifolia, Wall.

Akhar, Rikhali, . . . BEAS. | Orrosino-ki, . . . JAP.
Gudambal, . . . CHEN.

The varnish tree of Japan, is common in the Himalaya, in Kamaon, Nepal, and Garhwal. Its leaves are very large and beautiful, rendering it one of the handsomest of shrubs. *Rhus vernicifera* of Japan is met with all over the main island, but it is from Tokio northwards that it principally flourishes, growing freely on mountains as well as on plains. Sowing the seed one year, on the following spring the young trees are transplanted about six feet apart, and in ten years an average tree should be ten feet high, the diameter of its trunk $2\frac{1}{2}$ to 3 inches, and its yield of lacquer enough to fill a three-ounce bottle. A more speedy method is, however, often adopted. The roots of a vigorous young tree, in pieces six inches long, and the thickness of a finger, are planted out in a slanting direction, a few inches apart, one inch being left exposed above the ground. These cuttings throw out a strong shoot of from 18 to 20 inches the first year, and are likewise planted out the following spring. Under equally favourable circumstances these trees would in ten years be nearly 25 per cent. larger in girth, and would yield nearly half as much more sap as the trees raised from seed. The usual age at which a tree is tapped for its lacquer is ten years; but occasionally a tree is tapped when only three or four years old. The best lacquer for transparent varnish is obtained from trees from 100 to 200 years old, as their sap has more body and is more glutinous. The whole country produces at present on an average about 120,000 to 140,000 gallons per annum. The first tapping takes place about the middle of June, the standard number of trees allotted to a tapper for the season being 1000, if the trees are about ten years old. The trees are first notched, the notches being about half an inch long, and seven or eight inches apart. After four days the tapper goes round again provided with the bark scraper, the ordinary scraping sickle, a summer spatula, and the pot to hold the lacquer, and first smoothing the bark where required, gives one cut above and one cut below the two lower marks, and one cut above the remainder of the other marks, the cut being in each case about an inch and a half long. After giving the cut the instrument is reversed, and the knife is run along the incision to insure the bark being entirely cut through. This process is repeated every four days, each incision being made a little longer than the preceding one, up to the fifth tapping inclusive, after which the remaining incisions are made of the same length. At each round, when all the requisite incisions have been made on the tree, the workman gathers the sap which has exuded with the spatula, beginning with the two lowest incisions, and so on to the uppermost cut. Twenty-five is considered the normal number of cuts, which, at the rate of one incision at each place every four days, occupy 100 working days. The branches are afterwards tapped, and the last operation is to make a number of incisions completely encircling the tree

wherever the workman perceives a likely place. All the branches are cut off, and any sap which may remain in the larger ones extracted, the small branches which have not yet been tapped being tied in bundles and steeped in water for ten days. When taken out and dried, the bark is cut out with a knife, and the sap which exudes is collected. These operations kill the tree in one season, but frequently the tree is made to last two years or more, by giving only half the number of incisions, and reserving the final cuts for the second or third year. The roots of the young trees throw out from three to five shoots the following spring, and these can be used in six or seven years.

RHYNCHOCINETES TYPUS, a shrimp of the Indian Ocean.

RHYSICOSIA VESTITA, a beautiful purple-flowered leguminous plant with small tuberous roots, cultivated to some extent in the Khasaya Hills.—*Hooker's Jour.* ii. 287; *Oliphant*, ii. 136.

RHYZOMYS CHINENSIS, the Chinese bamboo rat or chuck-shu, is found in the western part of Kwang-tung.—*Williams' Mid. King.* 257.

RI. JAPAN. A long measure of 2442 miles; about 80 go to a degree of latitude.

RIAL, in Turkish Arabia and Persia, a silver coin, nearly equivalent to two French francs, or about twenty pence English.—*Ouseley, Tr.* ii. 218.

RIBBON.

Ruben de soie, . . . FR. | Nastro di seta, . . . It.
Band, . . . GER. | Cinto de seda, . . . SP.
Pheet, . . . GUJ., HIND. | Kordela, Sherid, . . . TURK.

Silken bands of various widths and colours, both plain and flowered, and distinguished into sarsenet, satin, etc., according to the manner in which they are made; used for trimming bonnets, caps, and other purposes.—*Faulkner*.

RIBBON FISH. One of these is the silvery hair-tail, *Trichiurus lepturus*, Linn., of China and Corea. It averages 5 feet; it is edible.

RIBES, a genus of plants belonging to the natural order Grossularia, including the gooseberry, the currants. Among the species known in the East Indies are—

R. glaciale, Wall.	R. leptostachyum, Dne.
R. grossularia, L.	R. nubicola.
R. Griffithi, H. and Th.	R. rubrum.
R. laciniatum, H. and T.	R. villosum.

R. nubicola, R. glaciale, and R. grossularia, the currant and gooseberry, grow in N.W. Himalaya at 10,000 and 11,000 feet, but the fruit is tasteless. Dr. Cleghorn also mentions a small, sour, woolly gooseberry called bilitsi in Lahoul. To these species add the gwaldakh, or gooseberry of Kaghani, and the rasta, or currant of Lahoul, also R. nubicola and R. acuminata. R. leptostachyum, Dne., the yellow currant, and R. nigrum, the black currant, are not uncommon from 7000 to 14,000 feet in the Himalaya, and the former at least grows in Tibet, and was found by Dr. Bellew at about 10,000 feet near the Safed Koh. The fruit of the latter is very like the cultivated black currant, and very fair eating. Ribes nigrum is used in preparing the liquor called ratafia.

Ribes glaciale, Wall., Mangle, Bhorr., is found in the Sulej valley between Rampur and Sungnam at an elevation of 11,000 feet. Several varieties occur, but the fruits are without flavour.

Ribes Griffithi, H. and T., grows in the N.W. Himalaya at 10,000 to 13,000 feet elevation. Its berries are austere.

RIBEYRO.

Ribes grossularia, L., gooseberry.

R. Himalensis, Royle. | *Pilae*, Teila, . . . CHEN.
Anlanoh, Kansai, CHEN. | *Sur-ka-chup*, . . . SUTLEJ.

This is found on the Upper Sutlej, Chenab, and Jhelum; in Tibet, in the Sutlej valley, between Rampur and Sungnam, at an elevation of 8000 to 12,000 feet. Also near the Safed Koh at 10,000 feet.

Ribes rubrum, Linn. (*R. Himalense*, Dne.).

Hadar, Khadri, . . . BRAS. | Red currant, . . . ENG.
Rade, Ans, . . . CHEN. | Dak, Dag, . . . JHELM.
Phulanoh Nangke, . . . " | Warawane, . . . TR.-INDUS.

Occurs frequently in the Panjab Himalaya from 5800 to 11,000 feet, up to the Indus and probably beyond; it has a sweet, acid, nearly worthless fruit.—*Royle*; *Stewart*; *Cleg.*; *Powell*.

RIBEYRO. Juan Ribeyro, a captain in the Portuguese army, who went to Ceylon A.D. 1640, and returned to Portugal by an order of the court in 1680, after 40 years' residence there and in other parts of the East Indies. He was engaged in all the wars between the Dutch and Portuguese, was taken prisoner when the Dutch took Colombo in A.D. 1656, and was in the small remnant of 140 Portuguese whom the Dutch transported to Batavia on the 24th June 1658. He wrote a history of Ceylon, which he presented to the king of Portugal in 1685. It was translated into French by Abbe Le Grand, and from that into English in 1847 by George Lee, Postmaster-General of Ceylon. The work was first published in Portuguese in 1836.—*Tennent*.

RIBHU, in the Vedas, celestial artists; analogue of the Greek Orpheus.

RIC, an ancient title applied to the highest class of Hindu priests. Ric, Ricsha, Riciswara were even applied to royalty in old times. It is in accordance with the peculiar rules of Sanskrit euphony that the stem ric (more properly rc) becomes rik when standing by itself, and rig before a sonant letter.—*Oriental Linguistic Studies*, p. 9.

RICCI. Matthew Ricci was born at Macerata in the March of Ancona, in 1552. He entered the Jesuit Society in 1571. He reached Goa in 1578, but speedily left it for Macao, on being chosen by Father Valignan, the founder of the Jesuit Mission in China, as one of his aids. Ricci reached Pekin in 1597, but was obliged by an accidental excitement among the Chinese to withdraw to Nankin. In 1600 he was enabled to revisit it, carrying presents which had come from Europe for the emperor. Having acquired the emperor's favour, he devoted himself to the mission at the capital. Some striking conversions were made, and Ricci's science and literary works in Chinese gained him much esteem among the most eminent persons at Pekin. He died 11th May 1610, leaving Adam Schall to succeed him. The chief literary men of the city attended his funeral. His name appears in the Chinese annals as Lu-mateu. The principles of Ricci as a missionary appear to have been to stretch conciliation as far as possible, and to seek the respect of the educated Chinese by the display of superior scientific attainments. As regards the former point, he is accused of having led the way in those dubious concessions which kindled the disputes that ended in the downfall of the missions. He was the first European to compose books in Chinese. His works of this kind were fifteen in

RICE.

number, and one of them is said to have been included in a collection of the best Chinese writers ordered by the emperor Khian-lung.—*Remusat* in *Biog. Universelle*; *Yule*, *Cathay*, i. p. 536.

RICE.

Lua, . . .	COCH.-CHIN.	Reiss, . . .	GER.
Rils, . . .	DAN.	Chuka, . . .	GUJ.
Ryat, Rijat, . . .	DUT.	Riss, . . .	RUS.
Riz, . . .	FR.	Ris, . . .	SW.

Husked and cleaned.

Mi, Kaligmi, . . .	CHIN.	Aris, . . .	MALCAL.
Chanwal, . . .	HIND.	Birinj, . . .	PERB.
Riao, . . .	IT.	Arroz, . . .	PORT., SP.
Motsj, Gome, Ko, . . .	JAP.	Vrihi, . . .	SANSK.
Tandul, . . .	MAHR.	Arisi, . . .	TAM.
Bras, . . .	MALAY.	Byum, . . .	TEL.

Cooked or boiled.

Ubalah Chawul, . . .	HIND.	Nasi, . . .	MALAY.
Khushka, . . .	"		

Glutinous.

No, Ju-mi, No-mi, . . .	CHIN.	Pad, . . .	MALAY.
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In the husk.

Aruz, . . .	ARAB.	Gabah, Pad, . . .	MALAY.
Tau, . . .	CHIN.	Nelloo, . . .	TAM.
Dhan, . . .	HIND.	Udlu, . . .	TEL.

This is one of the most extensively diffused and useful of grain crops, and supports a great number of the human race.

The exports from British India, and the imports into Great Britain, have been rapidly increasing. The imports into Great Britain from 1847 to 1857 ranged from 38,529 to 78,658 tons. In 1882, Britain imported 412,486 tons, value £3,297,414. In the eleven years 1850-51 to 1860-61 inclusive, the quantity of rice exported from British India varied from 777,572 quarters, value £672,438, in 1850-51, to 32,014,220 quarters, value £2,598,746, in 1855-56. In 1878-79, after India began to recover from a famine, the total export of rice was 2½ million tons, valued at Rs. 12,66,000. An export duty is levied on rice in India at the rate of 3 annas per maund, or about 6d. per cwt. A similar duty on wheat was repealed in 1873. The exports of rice from British India were—

1878-79, . . .	2,692,000 tons	Rs. 12,66,000
1879-80, . . .	4,362,480 "	" 24,36,000
1880-81, . . .	3,468,930 "	" 4,82,124
1881-82, . . .	4,148,000 "	" 14,24,017
1882-83, . . .	7,420,000 "	" 12,14,128

Three species and numerous varieties of the rice plant are enumerated by botanists, but they may be resolved into the lowland or aquatic rice (*Oryza sativa*), and the upland or mountain rice (*Oryza Nepalensis*). *Oryza* is the name by which rice was known to the ancient Greeks and Romans, and has been adopted by botanists as the generic name of the plant that yields this valuable grain. The term paddy is applied to the rice in its natural state—that is, before it is separated from the outer husk. In this state the natives of Hindustan call it dhan, as well as the plant; the clean rice they distinguish as chawul. The common or aquatic rice (*O. sativa*) is a native of the East Indies, and, unlike many cultivated grains, is still found growing wild in and about the borders of the lakes in the Rajamundry Circars. A kind with broader leaves (*O. latifolia*) is indigenous in Brazil, and Bates mentions having seen it growing wild in abundance on some of the tributaries of the Amazon. The common rice is cultivated in tropical countries, wherever there is a plentiful supply of water for irrigation, and succeeds well on land that is

RICE.

too low and moist for the production of other useful plants. Although grown principally within the tropics, it flourishes well beyond them, yielding even heavier and better filled grain. Under favourable conditions, it will mature in the east as high as the 45th parallel of north latitude, and on the Atlantic seaboard of North America as far north as 38°. On the west coast it will grow as high up as 40°. It does not necessarily require a very great degree of heat, but it must have moisture so abundant that the fields on which it grows require to be repeatedly laid under water by irrigation. Without its due degree of moisture it proves almost wholly unproductive. But the dry or mountain rice of Cochín-China and Nepal is raised upon a comparatively dry soil, without irrigation. It has been introduced into the United States, and grows several degrees farther north than the Carolina rice; it has also been cultivated with success in Hungary and Westphalia. At the London Exhibition there were displayed many curious specimens and varieties of rice grown without irrigation, at elevations from 3000 to 6000 feet on the slopes of the Himalayas, where the dampness of the summer months compensates for the want of artificial moisture. The upland rice flourishes on high and poor land in the United States, and produces more than Indian-corn on the same land would do, giving 15 bushels per acre where the corn yields but 7. The swamp rice is more prolific, often yielding in that region as much as from 30 to 70 bushels per acre.

This grain was first introduced into Virginia by Sir William Berkeley in 1647, who received half a bushel of seed, from which he raised 16 bushels of excellent rice, most or all of which was sown the following year. It is also stated that a Dutch brig from Madagascar came to Charleston in 1694, and left about a peck of rice in the husk with governor Thomas Smith, who distributed it among his friends for cultivation, from the produce of which no less a quantity than 60 tons was shipped to England in 1698. It soon after became the chief staple food of the colony. Its culture was introduced into Louisiana in 1718. The present culture of rice in the United States is chiefly confined to South Carolina, Georgia, Florida, Alabama, Mississippi, and Texas. The average yield per acre is from 20 to 60 bushels, weighing from 45 to 48 lbs. when cleaned. Under exceptionally favourable circumstances as many as 60 bushels per acre have been realized. The American rice, although originally introduced from the Old World, is now the finest in quality. That imported from Patna is more esteemed in Europe than any other kind of eastern rice. The low estimation of Java rice was not attributable to any real inferiority of the grain, but to the careless method of preparing it for the market.

The common rice being an aquatic plant, is best grown in such low, moist lands as are most easily inundated. The ground is first ploughed superficially, and divided into squares of from 20 to 30 yards each way, separated from each other by dykes of earth about a foot high, and sufficiently wide for a man to walk upon. These dykes are for the purpose of retaining the water when required, and permitting it to be drawn off when no longer necessary. So soon as the ground is prepared, the water is let on, and the several

RICE.

compartments of the rice fields are thus flooded into a depth of about 6 inches. The rice that is to be used as seed must remain in the husk, it having previously been put into sacks, and kept under water until the grain has swelled and begun to show signs of germination. The sower, walking through the inundated field, scatters the seed with his hands, as he would do if he were sowing wheat; being rendered heavy by its previous soaking, it immediately falls to the bottom, and even sinks a little way into the mud. After the lapse of about a fortnight, the young crop begins to show itself above the surface of the shallow water. As the plant grows, the depth of the water is increased, so that the stalks may not bend with their own weight. When they become stronger and less flexible, the water is drawn off for a few days to allow of hoeing, after which it is again let on, and maintained to about half the height of the plant, until the crop ripens and the straw begins to turn yellow. Then the water is emptied, and the harvest commences, the crop being reaped with a sickle. It is then bound up into bundles, and thrashed or trodden out and winnowed. The husk of the grain is removed in some countries by means of a mill constructed of two large cylinders of very hard wood, and obliquely furrowed, which are turned by the hand. Americans employ a rice-threshing mill with steam-engine attached. The rice in sheaf is taken up to the thresher by a conveyer; it is threshed, the straw removed, then thrice winnowed and twice screened, and the result in some cases exceeds a thousand bushels a day.

Paddy, as it comes from the ear, has a rough, silicious outer covering or husk, which is impervious to water, and is used in America for horse-beds, and for packing crockery-ware and ice, being far better than sawdust for the latter purpose.

At the mouths of the river Indus, large patches of alluvial deposit accumulate, consisting of very muddy, swampy soil, almost on a level with the sea, and exposed equally to be flooded both by it and the fresh water of the river. These swamps form the principal rice fields of Lower Sind. There is little doubt but that the extensive mud flats, covered with flags and bulrushes, that border the lower portion of the river Murray in South Australia, might easily be made available for the culture of rice. The delta of the Mississippi is remarkably adapted to the growth of this grain, the river being always available for the purposes of irrigation, and two crops of rice a year can be reckoned upon in that region.

The wild rice found in the Madras Presidency, in and on the borders of lakes in the Circars, on the marine lagoons of Travancore, near Allepey, and other places, is never cultivated, though the richer classes near Rajamundry gather and eat it as a great dainty. It is white, palatable, and wholesome, and sells at a high price.

Rice cultivation prevails in all the river valleys and on all the coasts of Eastern and Southern Asia, in the Japan Islands, on all the sea-coasts of China, the Philippine and other large islands of the Eastern Archipelago, in Ceylon, Siam, India, on both shores of the Red Sea, in Egypt, on the shores of the Mozambique Channel, in Madagascar, on the shores of the Mediterranean, in some parts of Western Africa, South Carolina, and Central America. Throughout the greater part of British

India and China rice is preferred as food by nearly all classes, and the Negro domiciled in the New World similarly appreciates it. But it is essentially the food of the well-to-do classes. The races of Northern India, and the Chinese of the provinces of Ho-nan, Shen-si, Shan-si, and Shan-tung, prefer wheat, and in India the millets and pulses form the food-grains of all the labouring people, with whom rice is a luxury.

Rice is always substituted by the physician, when practicable, as the food best adapted to the digestion, in diarrhoea and other similar diseases; and if the clean rice be ground and bolted, a meal is produced which can be made up into various forms of cake and other bread forms of unrivalled sweetness and delicacy.

Rice possesses the advantage attending wheat, maize, and other grains, of preserving plenty during the fluctuations of trade, and is also susceptible of cultivation on land too low and moist for the production of most other useful plants.

Where inundation is practised, ordinarily the ground is squared off in beds, generally 30 to 40 yards in length and breadth, separated by small dykes 2 feet high and 1 foot broad. This bed, after being thoroughly saturated with water, is ploughed up and manured with wood-ashes, or from dung-heaps, or green herbs or shrubs are ploughed in, the most favourite being the *Calotropis gigantea*, which is eagerly sought after by the cultivator at the ploughing season. The ground thus prepared is flooded with water, 2 to 4 inches deep, thoroughly to dissolve the soil, and a few days afterwards it is again ploughed into a deep muddy mixture. A piece of wood, tied on to the yoke of a pair of bullocks, is drawn over the puddle to level it, after which it is ready to receive the seed, which is then sown broadcast. The following day, so soon as the seed has settled into the soil, the flood water is let off, and the soil allowed to dry for three or four days, during which the seedlings will have sprung up about 2 inches high, on which the field is irrigated, and the water allowed to stand a couple of inches above the soil, and is so maintained until the harvest.

With some varieties of rice the field is ploughed up after rain, and the seeds sown. When the sprouts are between four and six weeks old, the field is irrigated for the first time, and the water supply maintained until the grain ripens and the stalks are ready for the sickle, which is seen by the whole field lying down. Nurseries are frequently prepared in the manner previously described, and the seed sown. Six or eight weeks afterwards, the plants are transplanted into fields prepared in the same way to receive them.

During the first and second months, the fields are hand-weeded by women and boys; any crowding or failure is remedied by transplanting, so as to leave 4 to 6 inches of space between each plant. If the plants shoot up in a lanky manner, 8 or 10 inches of the tops are cut off by the sickle, which makes them more fruitful. In the Tamil-speaking countries, the varieties called Kado Kaluthan, and Vellai, Sirumani, Pompalui, Esarakova, Pall, Thiruvaramangam, and Nirvala Sumbah are sown in July or August, and cut in January or February, taking six months to ripen. Vaday Sumbah, August to December, five months; Vallai kar, August to November, four months.

American rice is of two kinds,—the red and the white, from the colour of the pellicle which encloses the seed, on the removal of which both are alike white. The former was accidentally introduced in 1694 by a ship captain from Madagascar, and the latter was transmitted in 1647 to America by Mr. Doubois, treasurer of those days to the E. I. Company.

The growth of rice in North America is almost wholly confined to two States, nine-tenths of the whole product, indeed, being raised in the States of Carolina and Georgia. A little is grown in North Carolina, Florida, Alabama, Texas, Louisiana, and Mississippi.

The cultivation is carried on in South Carolina in the marshy flats, which are periodically covered by the floodings of the rivers, and for such culture that State possesses peculiar advantages, which not only enable the cultivator to produce his grain at a trifling cost of labour, but also of a much finer quality than in those lands which are artificially irrigated. Carolina rice has a finer, handsomer grain than that which is grown in the country of its original production.

The yield per acre varies in South Carolina from 20 to 60 bushels, weighing from 45 to 48 lbs. when cleaned. Under favourable circumstances, as many as 90 bushels to an acre have been raised.

A variety of rice, discovered in South Carolina in 1838, was called the big-grained rice. It proved to be unusually productive. One farmer, in 1840, planted not quite half an acre with this seed, which yielded 49½ bushels of clean winnowed rice. In 1842 he planted 400 acres, and in 1843 he sowed his whole crop with this seed. His first parcel when milled was 80 barrels, and netted half a dollar per cwt. over the primest rice sold on the same day. Another cultivator also planted two fields in 1839, which yielded 73 bushels per acre. The average crop before, from the same fields of 15 and 10 acres, had only been 33 bushels per acre.

Rice in Carolina is sown as soon as it conveniently can be after the vernal equinox, from which period until the middle, and even the last of May, is the usual time of putting it in the ground. It grows best in low marshy land, and should be sown in furrows 12 inches asunder; it requires to be flooded, and thrives best if 6 inches under water; is occasionally drained off, and turned on again to overflow it, for three or four times. When ripe the straw becomes yellow, and it is either reaped with a sickle or cut down with a scythe and cradle, some time in the month of September, after which it is raked and bound, or got up loose, and threshed or trodden out, and winnowed in the same manner as wheat or barley.

In the south of India, and along the sea-coasts, rice is the favourite food, but from the expenses attending the necessary irrigation, it is dearer than other cereals, and the labouring people live on dry grains, millets, and pulses. But these again take more time to prepare, more firewood to cook, and so strongly are the people of Southern India impressed by the superiority of rice as food, that it indicates their well-to-do or impoverished condition by their telling that they can have rice twice or only once daily, or once weekly. Nevertheless, for the labouring man, the value of the

dry grains, wheats, pulses, and millets, is far above rice as food.

Rice should be six months old before being used, new rice causing diarrhoea in many people. It is simply husked, or is half-boiled and dried in the sun. The former by the English in India is called table rice, and it is whiter than the boiled rice.

In *Kashmir* rice is the staple of cultivation. It is sown in the beginning of May, and is fit to cut about the end of August. The grain is either sown broadcast in the place where it is intended to stand till it is ripe, or thickly in beds, from which it is transplanted when the blade is about a foot high. About the 21st of March the land is opened by one or more ploughings, according to its strength, and the clods are broken down by blows with wooden mattocks, managed in general by women with great regularity and address; after which water is let in upon the soil, which, for the most part of a reddish clay, is converted into a smooth soft mud. The seed grain, put into a sack of woven grass, is submerged in a running stream until it begin to sprout, which ordinarily takes place in three or four days. This precaution is adopted for the purpose of getting the young shoots as quickly as possible out of the way of a destructive small snail, which abounds in some of the watered lands of *Kashmir*. When the farmer suspects, by the scanty appearance of the plants above the water in which the grain has been sown, and by the presence of the snail drawn up in the mud, that his hopes of a crop are likely to be disappointed, he repeats the sowing, throwing into the water some fresh leaves of the *Frangos* plant, which either poison the snails or cause them to descend out of the reach of its influence. The seed is for the most part thrown broadcast into about 4 or 5 inches of water, which depth is endeavoured to be maintained. Differences of practice exist as to watering, but it seems generally agreed that rice can scarcely have too much, provided it be not submerged, except for a few days before it ripens, when a dried state is supposed to hasten and to perfect the maturity, whilst it improves the quality of the grain. In *Kashmir* it is customary to manure the rice lands with rice straw rejected by the cattle, and mixed with cow-dung. It is conveyed from the homestead to the fields by women in small wicker baskets, and is set on the land liberally. Many of the rice lands are high, but yield good crops, through the facility with which water is brought upon them from the streams which fall down the face of the neighbouring hills. In common seasons the return of grain is from thirty to forty for one, on an average, besides the straw.

In the *Panjab* rice is grown in many of the plain districts, especially along the banks of the rivers. The rice of the *Kangra* valley and that of *Peshawur* are celebrated. And the varieties of it are very numerous, the best being the odorous kind called *bas-mati* or *bas-marti*. It is abundantly grown up to 6000 and 7000 feet in the *Siwalik* tract and up the valleys. In *Kullu* and *Lahoul* a kind of beer is stated to be prepared from rice, and on the *Sutlej* it is mixed with the *Hordeum hexastichon* barley for making beer.

In *Lower Sind* the *bhull* rice is grown. Like all large rivers which flow through an alluvial

soil for a very lengthened course, the *Indus* has a tendency to throw up patches of alluvial deposit at its mouth; these are in *Sind* called *bhull*, and are in general very valuable for the cultivation of the red rice of the country. The *bhull* are large tracts of very muddy, swampy land, almost on a level with the sea, and exposed equally to be flooded both by it and the fresh water; indeed, on this depends much of the value of the soil, as a *bhull* which is not at certain times well covered with salt water, is unfit for cultivation. They exist on both sides of the principal mouths of the *Indus*, in the *Gorabaree* and *Shahbander* parganas, which part of the province is called by the natives *Kukralla*, and was in olden days, before the era of *Gulam Shah*, *Kalora*, a small state almost independent of the amirs of *Sind*. On the left bank of the mouths of the river these *bhulls* are very numerous, and form by far the most fertile portion of the surrounding district. They bear a most dreary, desolate, and swampy appearance, are intersected in all directions by streams of salt and brackish water, and are generally surrounded by low dykes or embankments, in order to regulate the influx and reflux of the river and sea. Yet from these dreary swamps a very considerable portion of the rice consumed in *Sind* is produced; and the cultivators who hold them are esteemed amongst the most respectable and wealthy in *Lower Sind*. To visit a *bhull* the only way is to go by boat, the mud being generally two or three feet deep, and it is only here and there that a footing can be secured on the embankment surrounding the field. Should the river during the high season have thrown up a *bhull*, the cultivator selecting it for cultivation first surrounds it with a low wall of mud about three feet in height. These *bhulls* being formed during the inundation, are often considerably removed from the river branches during the low season. When the river has receded to its cold-weather level, and the *bhull* is free of fresh water, advantage is taken of the first high spring tide, to open the bund, and allow the whole to be covered with salt water. This is generally done in December. The sea water remains on the land for about nine weeks, or till the middle of February, which is the proper time for sowing the seed. The salt water is now let out, and as the ground cannot, on account of the mud, be ploughed, buffaloes are driven over every part of the field, and a few seeds of the rice thrown into every footmark; the men employed in sowing being obliged to crawl along the surface on their bellies, with the basket of seed on their backs; for were they to assume an upright position, they would inevitably be bogged in the deep swamp. The holes containing the seed are not covered up, but people are placed on the bunds to drive away birds, until the young grain has well sprung up. The land is not manured, the stagnant salt water remaining on it being sufficient to renovate the soil. The rice seed is steeped in water and then in dung and earth for three or four days, and is not sown until it begins to sprout. The farmer has now safely got over his sowing, and as this rice is not, as with other varieties, transplanted, his next anxiety is to get a supply of fresh water; and for this he watches for the freshes which usually come down the river about the middle and end of February, and if the river then reach his *bhull*, he opens his bund,

and fills the enclosure with the fresh water. The sooner he gets this supply the better, for the young rice will not grow in salt water, and soon withers if left entirely dry. The welfare of the crop now depends entirely on the supply of fresh water. A very high inundation does not injure the bhull cultivation, as here the water has free space to spread about. In fact, the more fresh water the better. If, however, the river remain low in June, July, and August, and the south-west monsoon sets in heavily on the coast, the sea is frequently driven over the bhulls and destroys the crops. It is, in fact, a continual struggle between the salt water and the fresh. When the river runs out strong and full, the bhulls prosper, and the sea is kept at a distance. On the other hand, the salt water obtains the supremacy when the river is low, and then the farmer suffers. Much bhull crop is destroyed in the monsoons and during the heavy gales. The rice is subject to attacks, also, of a small black scab-crab, called by natives Kookacc, and which, without any apparent object, cuts down the growing grain in large quantities, and often occasions much loss. If all goes well, the crop ripens well about the third week in September, and is reaped in the water by men, either in boats or on large masses of straw rudely shaped like a boat, and which, being made very tight and close, will float for a considerable time. The rice is carried ashore to the high land, where it is dried, and put through the usual harvest process of division, etc.; and the bhull is then, on the fall of the river, again ready for its annual inundation by sea water.

Oudh.—Very many varieties of rice are grown in Oudh. A heavy soil and plenty of water suits them best. There are five kinds which are considered among the best; Mihee and Bansee are foremost. The peculiarity in the cultivation of these two kinds is that they are transplanted and placed about five inches apart. And by this method, if the soil be good, they grow to the height of an ordinary-sized man, and produce a much larger quantity than if otherwise treated. The odour and flavour of these two kinds, when cooked, are superior to those of any other kind. They are only used by those who can afford to buy them. As the labour in cultivating them makes them dearer than the other sorts, the other three varieties are considered good, as the Bateesa and the Phool Birinj. They are sown broadcast in June, and left so, and they are the kinds mostly used by natives. The first two mentioned, when new, sell for 10 or 12 seers per rupee, and become dearer according as they become older. The other three kinds sell for about 19 seers per rupee, and are dearer if older. Some consider Phool Birinj the best, as it swells in boiling, and has an agreeable odour.

The rice of *Bengal*, by the exercise of some care and skill, had been, by the middle of the 19th century, so far improved as nearly to equal that of the Carolinas. Dr. Falconer introduced the numerous and fine varieties of rice cultivated in the Himalaya; of these, some of the best sort were, at his suggestion, distributed to cultivators along the Doab canal. The early or *aous* rice is sown generally on high, light, and sandy soils from March to May, as showers may be favourable. It is cut variously from the end of July to the

middle or end of September, and in six weeks' time it is succeeded by what is known as cold-weather crop, which may be mustard, vetches, pulse, millet, sola, or gram, barley, oats, and the like. The *amon* rice is sown in rich, deep, and loamy soils from April to June, and is reaped any time between the beginning of December and the end of January. It is a richer, stronger, and every way a better crop than the *aous*, but it is more exposed to inundation, and is not followed by any second crop within the year. Occasionally the early and the late crops are sown on the same land, and cut without injury to each other at different periods. A large part of the late rice is planted with the hand in rows, on land carefully ploughed, cleaned, and smoothed for the purpose. It is everywhere known as the *ron*, and yields an abundant harvest. A third kind of rice, unknown in high and dry tracts of country, but very common in extensive marshy districts, is called the *boru*, and from its proximity to water is sown and grown from the month of January to the end of May. It is cultivated in places where there is too great a depth of water during the heavy rains, and consequently abundance to keep the plant moist during the fierce heat of summer. The early rice, in the most favourable season, from both grain and straw, cannot give more than five rupees per bigha. In bad seasons it may not yield more than one rupee. As much as ten or even fifteen rupees may be got from the *amon* crop in good seasons; but when heavy rains, or unexpected inundations from large rivers, drown the young plants, as was the case during 1855 and 1856, and may be the case again at any time, the return is positively nothing. The *boru* rice may be expected to yield seven or eight rupees per bigha. And on these three crops, over some hundreds of miles, the hopes and anxieties of some millions hang for a large part of the year.

Cuttack has three crops. The early crop is grown on somewhat high ground; it is sown for the most part in June, and reaped in August or September. The second is the main crop, and is sown in June or July, and cut from November to January; it requires much moisture, some varieties growing in several feet of water. The third is a dwarf crop, cultivated in the months of March, April, and May, on low-lying land, generally on the sides of marshes and pools, where irrigation is easy; the ratio of productiveness is said to be in a good season as 1 to 35.

Ganjam.—The exclusive culture of rice in Ganjam, Cuttack, and northwards into Lower Bengal has been a cause of much misery and great loss of lives from famines occurring through the failures of the periodical rains; and Mr. Thornhill in 1872 counselled the partial culture of other cereals, pulses, and millet. In the Teling Circars the two crops are designated Poono or early, and Pedda worloo or great. Near the Colar Lake there are two kinds of rice, called *sarva* and *dalva* respectively. The former is the ordinary rice with a light-yellow husk, which is planted about July or August, and is cut about December or January. The *dalva* husk is of a dark-brown colour, and is planted about January or February, and cut about April or May. The *sarva* takes six months to ripen, but the *dalva* ripens in about three months. When the husk is peeled off the *dalva*, the seed looks much the same as that of

ordinary rice, and though at first the dalva sells for less, towards the end of the year almost the same price is given for it as for the sarva. The dalva is said to be unwholesome, except for those who live in the neighbourhood of its cultivation and are accustomed to eat it. But even they not unfrequently say that it causes derangements of the system.

In *Ceylon*, a variety of coast paddy, called *Mottoo samboo*, was introduced into the Kandyan Province in 1832, which was found to produce a more abundant crop, by one-third, than the native. It is of six months' growth.

Dr. Marshall, Statistical Reporter in the Dekhan, found five modes of planting rice common in *Kalanuddi*. The most productive was by transplanting (*Rop*) from a nursery. A second mode was to sow it by the drill called *Koorce* or *Koorgee*, from the *Mahratta* name of the drill, and this mode can be adopted only when very little rain has fallen; the outturn is small. The third process was to sow the grain in the furrow made by the common plough. The fourth, termed *Mullik*, is resorted to when any of the former has failed; in it the grain is wetted, put in a sack, and kept warm, and made to germinate, and then thrown broadcast on the place where there has been failure. The fifth process, *Sardi*, is to transplant any of the superfluous *mullik* plant.

In *South India* generally, there are two great crops, the *Kaar* and the *Sumbah* or *Peshanum*. The latter is reaped in February and March, and its produce is preferred to that of the *Kaar* crop, which is reaped in October.

In *Travancore* and *Tinnevely*, the rice fields are manured with cow-dung, ashes, and tree leaves. Rice seed is usually sown broadcast, thickly, and about 40 days or upwards transplanted, and the usual time from the planting out to the reaping season is about 60 days. When sown broadcast, thinly, to remain in the same field, that is generally done about 15 days before the rains set in. It is generally supposed that while growing the plants cannot have too much water, but as the ears come to maturity, the water is drawn off and the crop lies down under the weight of the ears.

Further India.—In the *Assam* valley, in the seaboard of *Chittagong*, *Arakan*, *Pegu*, the valleys of the *Burma* and *Pegu* rivers, in *Amherst*, the *Tenasserim* Provinces, *Province Wellesley*, *Siam*, *Cochin-China*, *Cambodia*, *China*, and the great islands of the *Archipelago*, rice is the chief grain food.

Arakan soil is fit for the culture of nearly all tropical productions; rice, however, is alone cultivated to any great extent, the low alluvial soil which extends over the whole country, from the foot of the mountains to the sea, being admirably suited for its growth.

In *Burma* and *Tenasserim* cultivation has produced many varieties; the *Karens* have distinctive names for more than forty. *Karen* mountain rice is preferred by many to that which is raised by the *Burmese* on the low lands; yet it is said not to be so nutritious, and on this account bears a less price in the bazar. It is of all colours, from ivory-white to coal-black. Of the black rice the *Karens* prepare a kind of bread, which to them supplies the place of ginger-bread. A portion of seethed rice is poured into a large mortar, with

a prodigious quantity of *sesamum* seeds. Two women then take their strong ebony pestles and pound it, striking alternately until it becomes a light bounding mass. It is then thrown upon the eating stand, when the whole family sent themselves around it in oriental style, and discover it with their swords. The *Karen* have another mode of preparing this kind of rice, which is particularly convenient for travellers. A quantity unboiled is thrust into joints of small bamboos, a little water added, and the orifice closed up. It is then roasted, and if eaten with a little butter and salt it is delicious. The *Karen* select only two varieties of bamboo for this purpose, and these impart to the rice a sweet, delicate flavour.

The *Burmese* rear nearly a hundred varieties of rice, but the principal distinctions between the different kinds are—hard grain, soft grain, and glutinous rice. The *Natsieng* is the hardest, and is the rice which is principally exported to Europe. The *Meedo* is the chief of the soft-grain varieties; it is much preferred by the *Burmese* to the hard-grained sorts, and it is certainly superior in taste when cooked; but the hard-grained rice is chiefly purchased by the merchants for export, as it keeps better, and the soft-grained rice is too much broken by European machinery in cleaning. The *Toungyeen*, or hill rice of *Burma* and *Tenasserim*, is called glutinous rice by Europeans, from the property it possesses when cooked of the grains all adhering in a thick glutinous mass. It is the chief article of food with the *Karen* and other hill tribes, but is not much eaten by the inhabitants of the low swampy plains, where the common rice is grown. Price of rice in the husk, 50 rupees per 100 baskets of 52 lbs.; cargo rice, 95 rupees per 100 baskets of 63 lbs.; cleaned rice, 150 rupees per 100 baskets of 70 lbs.

Burmese rice is known in the export trade as five parts cargo rice, being but imperfectly husked before shipment, so that it contains about one part in five of paddy or unhusked rice. The greater part of the *Burman* rice exported is used in the countries to which it is sent for distillation or for making starch. It is a thick, coarse grain, which, when boiled, is repulsive in appearance to persons unacquainted with it, and its flavour is not equal to that of *Bengal* rice proper.

Siam.—Rice is the main aliment of the *Siamese* poor; by the opulent, it is an accompaniment to their meals, as bread is in Europe. Glutinous rice is employed either in flour or grains. A favourite cake is thus prepared: The rice is cooked without water or steam; it is then sprinkled with condiments consisting of ginger and other spices; it is divided into small parcels, which are wrapped up in plantain leaves, and in twenty-four hours a sweet and vinous liquor exudes, when the cake is fit for eating; if kept longer they become intoxicating, and if distilled produce arrack, which, subject to redistillation, gives a strong and fragrant drink.

In *Cochin-China* rice is the 'staff of life,' and forms the main article of culture. There are six different sorts grown: two on the uplands, used for confectionery, and yielding only one crop annually; the other sorts affording only from two to five crops a year, but generally two, one in April and another in October; or three when the inundations have been profuse. *Siam* and

RICE.

Cochin-China supply the wants of China and the Straits Settlements.

China.—In the southern and well-watered provinces, it is anything but uncommon to take two crops of rice, one of wheat and one of pulse, from the same land in a single season. Rice is the only article the Chinese ever offer a bounty for; the price fluctuates according to the season, from 1½ to 8 dollars per pikul (133½ lbs.). Siam and the Indian islands, particularly Bali and Lombok, supply the empire occasionally with large quantities. The price of rice in China varies according to the state of the canals leading to the interior; if they are full of water the prices rise; if, on the contrary, they are low, prices fall in proportion at the producing districts. The amount of consumption is controlled in a considerable degree by the cost of transit; during the growth of the rice the fields are always kept flooded when water can be obtained. The terraces near the base of the hills are supplied by the mountain streams, and the fields which are above the level of any adjoining river or canal are flooded by the water-wheel. These machines are of three kinds. The principle in all of them is the same, the only difference being in the mode of applying the moving power; one is worked by the hand, another by the feet, and the third by an animal of some kind, generally a buffalo or bullock. The rice lands are kept flooded in this way until the crops are nearly ripe, when the water is no longer necessary. It is advantageous during the summer to stir the soil up well amongst the roots, at the same time removing any weeds which may have sprung up. In the island of Chusan, and over all the rice country of Che-kiang and Kiang-su, manure plants are scattered in April in a fresh state over the surface of the ground. The fields are flooded, and the plough and harrow are employed to turn up and pulverize the soil. The manure thus scattered over the ground and half-buried amongst the mud and water, begins to decay immediately, and gives out a most disagreeable putrid smell. A great portion of the straw, cotton stalks, and grass which would go to manure the fields, is used for firing, and therefore the plan of growing manure for the land is forced upon the farmers by necessity. The glutinous rice of the Chinese contains much dextrine, and is preferred for making congee, dumplings, and wine. The Chinese of Ho-nan, Shen-si, Shan-si, and Shan-tung prefer wheat to rice.

Java is the granary of plenty for all the Eastern Archipelago. Rice is cultivated there in three systems. The name of Sawah is given to the rice fields which can be irrigated artificially; tepar or tagal are elevated but level grounds; and gagah or ladang are cleared forest grounds. The two last only give one crop; a second crop may be obtained from the sawah, which then most commonly consists of katjang, from which oil is extracted, in kapas or fine cotton, and in ubie, a kind of potato.

Archipelago.—Two distinct descriptions of rice are cultivated throughout the Indian islands, —one which grows without the help of immersion in water, and another for which that immersion is indispensably requisite. In external character there is very little difference between them. The marsh rice generally brings a some-

RICE.

what higher price in the market. The great advantage of this latter consists in its superior fecundity. Two very important varieties of each are well known to the Javanese husbandman,—one being a large, productive, but delicate grain, which requires about seven months to ripen, and the other a small, hardy, and less fruitful one, which takes little more than five months. The first is constantly found cultivated in rich lands, where one annual crop only is taken; and the last in well-watered lands, but of inferior fertility, where the two crops may be raised. Both of these, but particularly the marsh rice, is divided into a great number of sub-varieties, characterized by being awned or otherwise, having a long or round grain, or being in colour black, red, or white.

Celebes.—Rice is grown to some extent in the Dutch portion of Celebes.

In the *Philippines*, nine varieties of rice are cultivated,—Binambang, Lamuyo, Malagequit (a), Malagequit (b), Bontal Cabayo, Dumali, Quinanda, Bolohan, Tang-i. The lamuyo forms the principal article of food of the inhabitants of the coast; the malagequit (a) is glutinous, and used for making sweetmeats and fancy dishes.

The varieties of the hill rice are named O. mutica and O. glutinosa, and it has been recommended to introduce them into all the mountain ranges of India. The *Oryza glutinosa* of Rumphius is never used as bread, but commonly prepared as a sweetmeat. Red rice is the variety of *Oryza sativa* called glutinosa (pulut or brasse pulut of the Malays). In the Straits Settlements, red rice is imported from China, and sells at the rate of 10 cents of a dollar per lb. O. mutica has been reared successfully on the banks of the Thames near Windsor; and if well up and firmly rooted it will grow through snow. They are grown in the Himalaya, in Ceylon, Arakan, Burma, Cochin-China, Java, and Japan. The mountain rice of India are grown without irrigation, up to elevations of 6000 to 7000 feet on the Himalaya, where the dampness of the summer months compensates for the want of artificial moisture; also on the Siwalik tract and up the valleys of the N.W. Himalaya, their elevation securing them from the great heat to which the other varieties are exposed. In Kanawar, the greatest height at which rice that requires water has been observed, is 6600 feet. The other kinds, which are not watered, grow at 8000 and 9000 feet.

In India generally, rice is produced in every variety of soil, at every altitude and in every latitude. To name a tithe of the varieties grown would prove a tedious and be a useless task, for they vary with every district in which they grow. The finest is the Bengal table rice; it is inferior to the Carolina produce, and the great bulk of the Indian varieties would be unmarketable in Europe, from their poverty of body and the slovenly manner in which they are prepared. Up to the present year (1883) Carolina rice fetches the highest price in the London market, and after that is the rice of Patna. Carolina rice is very much superior to any other rice known in commerce, and it fetches more than double the price of the best Bengal rice.

Rice cultivated in a virgin soil, where the wood has been burned off, will, under favourable circumstances, give a return of twenty-five and thirty fold. Of mountain rice, cultivated in ordi-

nary upland arable lands, fifteen fold may be looked upon as a good return. In fertile soils, when one crop only is taken in the year, marsh rice will yield a return of twenty-five seeds. When a double crop is taken, not more than fifteen or sixteen can be expected. Mr. Crawford says he had seen lands which had produced, from time beyond the memory of any living person, two yearly crops of rice. When this practice is pursued, it is always the five months grain which is grown. The rapid growth of this variety has indeed enabled the Javanese husbandman, in a few happy situations, to urge the culture to the amount of six crops in two years and a half.

The rudest and probably the earliest practised mode of cultivating rice, consists in taking from forest lands a fugitive crop, after burning the trees, grass, and underwood. The ground is turned up with the mattock, and the seeds planted by dibbling between the stumps of trees. The period of sowing is the commencement of the rains, and of reaping that of the dry season. The rice is, of course, of that description which does not require immersion. The second description of tillage consists also in growing mountain or dry land rice. This mode is usually adopted on the common upland arable lands, which cannot conveniently be irrigated. The grain is sown in the middle of the dry season, either broadcast or by dibbling, and reaped in seven or five months, as the grain happens to be the larger or the smaller variety. The culture of rice by the aid of the periodical rains forms the third mode. The grain being that kind which requires submersion, the process of sowing and reaping is determined with precision by the seasons. With the first fall of the rains the lands are ploughed and harrowed. The seed is sown in beds, usually by strewing very thickly the corn in the ear. From these beds the plants, when twelve or fourteen days old, are removed into the fields, and thinly set by the hand. They are then kept constantly immersed in water until within a fortnight of the harvest, when it is drawn off to facilitate the ripening of the grain. The fourth mode of cultivating rice is by forcing a crop by artificial irrigation at any time of the year; thus in one field, in various plots, the operations of sowing, ploughing, transplanting, and reaping may be seen at the same period.

The growing rice in the Monghir Province of Bengal in 1880 was attacked by a species of *Cecidomyia*, which Mr. Wood Mason named *C. oryzae*, the rice-fly.

Rice flour, *Mi-fen*, CHINESE, is ground rice. The seeds of rice contain a much less proportion of nitrogenized compounds than the other cereal grains, and particularly wheat, viz. about 7 per cent. The quantity of fatty matter is also less; and though much difference of opinion has prevailed in reference to the value of rice as an article of diet, analysis clearly proves that it is the least nutritious of all the cereal grasses. This difference of opinion has probably arisen from the fact that rice is seldom eaten by itself, but is partaken of usually with milk, butter, or sugar, the nutritious properties of which substances have been attributed to the rice itself. The Chinese prepare a flour, *Mi-fen*, by boiling rice and drying it in the sun, and the clear grains are ground into a flour, which makes an excellent gruel.

Prime rice, after being cleaned and well milled, will keep a long time in any climate, only when about to be used (if old) it requires more careful washing to get rid of the must which accumulates upon it. All persons prefer for table use, rice a year old to the new.—*Ainslie*; *Archipelago Journal*; *Bowring's Siam*; *Bonyng's America*; *Calc. Rev.*; *Calc. Cat.*; *Capper's Three Presidencies*; *The Colonist*; *Crawford's Archip.* and *Dict.*; *Drury, Useful Plants*; *Fortune's China*; *Hassal*; *Hogg, Veg. King*; *H. and Th. Fl. Ind.*; *Mr. L. Liotard*; *Low's Straits Settlements*; *M'Culloch's Dict.*; *Mason's Burma*; *Dr. Marshall, Stat. Rep.*; *Mr. J. E. O'Connor*; *Powell*; *Poole's Statist.*; *Roxburgh*; *Baboo Rajendra Lal*; *Simmonds' Magazine and Comm. Prod.*; *Smith, Mat. Med. of China*; *Stewart, Panj. Pl.*; *Voigt*; *J. Wood Mason*.

RICE BIRD, of America, is the *Emberiza oryzivora*, Linn. That of the Archipelago is *Loxia oryzivora*, Linn., and is also called paddy bird, also Java sparrow. Its colour is bloomy lead-coloured; head and tail black, bill red, belly obscurely rosy, cheeks in the male snowy, legs flesh-coloured. In Java it is called Glate. There, and in the other parts of Asia where it is found, it has a very bad reputation on account of the ravages which it commits in the rice fields with its powerful and sharp bill. In Sumatra the name of the bird is Burong Peepee. Its song is short and monotonous.

RICE GLUE, or Japanese cement, is made by mixing rice flour intimately with cold water, and boiling the mixture. It is white, and dries nearly transparent; hence its use in making many articles in paper. When made with a smaller quantity of water, models, busts, etc., may be formed of it.—*Tomlinson*.

RICE MILL. Various machines have been contrived for cleaning rice. One in use in most parts of S.E. Asia for hulling paddy, is similar to those used 4000 years ago. It consists of two circular stones, two feet in diameter, resting one on the other; a bamboo basket is wrought around the upper one so as to form the hopper. A peg is firmly set into the face of the upper stone, halfway between its periphery and centre, having tied to it by one end a stick three feet long, extended horizontally, and attached by the other to another stick pending from the roof of the shed under which the mill is placed. This forms a crank, by which the upper stone is made to revolve on the other set firmly on the ground. The motion throws the rice through the centre of the stone, and causes it to escape between the edges of the two stones.

At Rangoon, since 1860, a mill is in use which was invented by Thomas Sutherland of Melbourne. By it 350 tons can be turned out in the 24 hours, and nearly all the work is done by machinery. The value of rice produced by this company's mills was at once valued at 1s. a cwt. over native cleaned rice.

About the year 1830, the planters of America began experiments with rice mills, and about that year saw the first working of a small mill. The rice threshing-mills, steam-engine attached, of Carolina and New Orleans, have become splendid operative machines. The rice is sheaf is taken up to the thresher by a conveyer; it is threshed, the straw taken off, then thrice winnowed and

RICE PAPER PLANT.

twice screened, and the result in some cases exceeds a thousand bushels of clean rough rice, the work of a short winter day.

RICE PAPER PLANT.

Aralia papyrifera, *Hk.* | *Fatsia papyrifera*, *Dene.*

This plant, the Tung-to-mu of the Chinese, grows at Yoksun, in Sikkim, also in Formosa and Japan. It is largely consumed in the provinces of Canton and Foh-kien, and it is estimated that 30,000 dollars' worth of it are annually made use of in Fu-chu-fu alone, where every lady wears artificial flowers made of it. One hundred sheets, each about three inches square, can be bought for three halfpence. Rice pith is sometimes $1\frac{1}{2}$ inches in diameter, not grown from seed, but from young shoots. When these appear above ground early in spring, and are a few inches high, they are carefully separated from the parent roots, and transplanted into pots, in which they remain until about a foot high, when they are removed to land prepared for them. They are said to attain their full growth of 10, or 12 feet at their tenth month. They are cut down, the twigs and leaves removed, and the stems left to soak for some days in water to loosen the bark and wood, and facilitate the removal of the pith. This last, after being cleared and made into a cylindrical shape, is cut into convenient lengths, and is now ready for the hand of the paper-cutter, who, with a sharp, broad-bladed knife, makes a slight longitudinal incision in the cylinder of pith, which is then turned round gently and regularly on the edge of the knife, until the whole available material is planed off in thin even slices. Much care and dexterity are requisite to produce sheets of even thickness.—*Bennett*, pp. 299–304; *Hooker's Jour.* p. 359; *Faulkner; Fortune's Res. among the Chinese*, p. 197; *Dr. Smith's Mat. Medica of China*; *Sir John Bourring in New Garden Miscellany*, vii.

RICE SPROUTS are the Kuh-ya and P'ih-mi of the Chinese. In China, rice in husk is called Kuh. Rice germinated and dried is used as a peptic and tonic remedy, having much the same effect as the germinated barley or malt. The sprout is sometimes rejected, sometimes retained.

RICE STARCH. Starch is more abundant in rice grain than in wheat. Jaconnet obtained from Carolina rice 85.07, and from Piedmont rice 83.8 per cent. of starch. Vogel procured from a dried rice no less than 98 per cent. of starch. For purposes of ordinary starching, the people in the E. Indies use the water in which rice has been some time boiled, called Conjee or Gunji in India, and in Chinese Mi-t'ang. Their Mi-teang-fen is the Mi-t'ang mixed up with powdered gypsum, the product cut up in thin rectangular cakes, and dried in the sun. There are several patent processes in existence for the manufacture of rice starch, which are accomplished chiefly by digesting rice in solutions, more or less strong, of caustic alkali (soda), by which the gluten is dissolved and removed, leaving an insoluble matter composed of starch, and a white substance technically called fibre. Under Jones' patent, the alkaline solution employed contains 200 grains of real soda in every gallon of liquor, and 150 gallons of this liquor are requisite to convert 100 lbs. of rice into starch. In manufacturing rice starch on a large scale, Patna rice yields 80 per cent. of marketable starch, and 8.2 per cent. of fibre, the remaining

RICE WINE.

11.8 per cent. being made up of gluten, gruff or bran, and a small quantity of light starch carried off in suspension by the solution. Jones' process may thus be described: 100 lbs. of rice are macerated for 24 hours in 50 gallons of the alkaline solution, and afterwards washed with cold water,* drained, and ground. To 100 gallons of the alkaline solution are then to be added 100 lbs. of ground rice, and the mixture stirred repeatedly during 24 hours, and then allowed to stand for about 70 hours to settle or deposit. The alkaline solution is to be drawn off, and to the deposit cold water is to be added, for the double purpose of washing out the alkali, and for drawing off the starch from the other matters. The mixture is to be well stirred up, and then allowed to rest about an hour for the fibre to fall down. The liquor holding the starch in suspension is to be drawn off, and allowed to stand for about 70 hours for the starch to deposit. The waste liquor is now to be removed, and the starch stirred up, blued (if thought necessary), drained, dried, and finished in the usual way.—*Pharmaceutical Journal*, iii. p. 188.

RICE STRAW, Tau-kan, CHIN., is used in China for paper-making, and in Europe serves to make straw plats for women's bonnets. In China the ashes of rice straw are used as an alkaline remedy in urinary and febrile affections.—*Hogg's Vegetable Kingdom*, p. 816; *Smith*, p. 186.

RICE WINE, rice beer, and rice spirits are alcoholic fluids. In the Himalaya, both a beer and a wine are made. In Kullu, Lahoul, and in the Sutlej valley, a kind of beer, and in Nepal a spirit, is distilled from the grain, also a beverage called Phaur, very much resembling ale, and procured in the same manner. In the S. of the Peninsula, in the preparation of arrack spirit, rice forms an ingredient.

The Lau spirit of the Burmans and Siamese is prepared from rice.

In Java two spirits are prepared from it. One of these, called Badek, is made by first boiling and stewing the rice with a ferment called Razi, consisting of onions, black pepper, and capsicum, and mixing and forming the whole into small cakes, which are daily sold in the markets. After frequent stirring, the mixture is rolled into balls, which are piled upon each other over a high earthen vessel, and when fermentation has commenced, the badek exudes, and is collected at the bottom. The remainder, after fermentation is completed, is sold as a dainty in the markets under the name of Tafe. The other rice spirit is called Brom, and is made from retan or glutinous rice, and is of a brown, yellow, or red colour, according to the colour of the rice used. This is boiled in large quantities, and, being stirred with razi, remains exposed in open tubs until fermentation takes place, when the liquor is poured into close earthen vessels. It is generally buried for several months in the earth, by which means the fermentation is checked and the strength of the liquor increased. It is sometimes made stronger by boiling.

The Saki of the Japanese is a beer which a little resembles wine. It is of an unpleasant taste, but it is drunk at every meal, and sold at all the taverns. Before use, it is warmed in a tea-kettle, and drunk warm out of flat lacquered ware cups. It intoxicates rapidly, but the inebria-

tion speedily vanishes, leaving behind a disagreeable headache.

The Chinese prepare from rice different sorts of wines of a red, white, yellow, or pale colour. The best, called Mandarin wine, is strong, and will keep for many years. It is wholesome, but expensive, and is only used by the higher classes. Some of the rice wines are highly perfumed. A strong spirit like brandy is distilled from the lees, and is called Sam-su and Shou-chu.—*Stewart, Panjab Plants; Hogg's Veg. King.; Smith's Mat. Med. of China.*

RICH, CLAUDIUS JAMES, born 28th March 1787, near Dijon in Burgundy; died of cholera at Shiraz on the 5th October 1821. He was brought up at Bristol. While only eight or nine years of age he was attracted to Arabic, and by the age of fifteen he had made progress in Hebrew, Syriac, Persian, and Turkish. He travelled in Asia Minor, and became assistant to Colonel Misset, Consul-General in Egypt, and joined via Cyprus. Disguised as a Mameluk, he travelled over much of Palestine and Syria, and from Aleppo he proceeded to Mardin and Baghdad to Bussora, and on to Bombay, which he reached in September 1807, and was then appointed Resident at Baghdad, where he remained till his death. His remains were interred without the city walls; but, to the disgrace of the prince Hussain Ali Mirza, the Persians could not allow them to repose undisturbed, and in 1826 the envoy to the Persian Court removed them to the Armenian burying-ground at Isfahan. He travelled in Kurdistan. He was the first to engage in a series of examinations of the ruins within the limits of ancient Assyria. The remains near Hillah, in the immediate vicinity of Baghdad, first engaged his attention. His discoveries amongst the ruins of Babylon were of considerable interest, though in results far behind what has since been published. They consisted chiefly of fragments of inscriptions, bricks, engraved stones, and a coffin of wood; but the careful account which he drew up of the site of the ruins was of greater value, and has formed the groundwork of all subsequent inquiries into the topography of Babylon. The results of his examination and researches at Hillah and Babylon, with an able dissertation on the topography of ancient Babylon, and the position of its principal buildings, appeared at Vienna in an oriental literary journal called the *Mines de l'Orient*. This memoir was translated and published in London, and was followed by a second memoir, called forth by some remarks in the *Archæologia* by Major Rennell. The two have since been republished by his widow, entitled, *Narrative of a Journey to the Site of Babylon in 1811; Memoirs on the Ruins, and Journey to Persopolis, 1839.*—*Mignan's Travels*, p. 90; *Layard's Nineveh*, i. pp. 22, 23.

RICHARDSON, Sir JOHN, a native of Leith, and a medical officer of the British navy, who was present in one of the polar expeditions. He described the fishes of Japan.

RICINUS COMMUNIS. *Lin.* Palma christi.
Dhun-ul-kerwa, . . . ARAB. Eramli, . . . HIND.
Tehsha, Zajit, . . . Sit Avanak, . . . MALEAL.
Bharenda, . . . BENG. Avanak, MALEAL, TAM.
Kyet h'au, . . . BURM. Red-i-anjir, . . . PERS.
Haralu, . . . CAN. Endaru, . . . SINGH.
Aneru, . . . CHEN. Chittaminidialu, . . . TEL.
P'i-ma, . . . CHIN.

A Sanskrit proverb, in the first book of the *Hitopadesa*, says 'that where there are no trees, even the castor-oil plant ranks as a forest tree.' Nevertheless it grows sufficiently large to produce wood, but it is chiefly remarkable for the beauty of its large spreading leaves, and the value of its seeds, which yield castor-oil. Two varieties, one bearing small and the other large seeds, are produced all over India. The small-seeded variety yields the better product, and is employed in preparing the oil exported for medicinal purposes.

Castor-oil of smaller fruit.

Barik erundi, . . . HIND. Kaliki, . . . SUNDA, MAD.
Jarak, . . . MALAY. Sitti-amunaku, . . . TAM.
Tangan tangan, . . . PHIL. Chittaminidialu, . . . TEL.

The fresh seeds of the castor-oil plant, after having been sifted and cleaned from dust, stones, and all extraneous matters, slightly crushed between two rollers, and freed by hand from husk and coloured grains, are enclosed in clean gunny. They then receive a slight pressure in an oblong mould, which gives a uniform shape and density to the packet of seed. The bricks, as they are technically called, are then placed alternately with plates of sheet-iron in water in an ordinary screw or hydraulic press. The oil thus procured is received in clean tin pans; and water, in the proportion of a pint to a gallon of oil, being added, the whole is boiled until the water has evaporated; the mucilage will be found to have subsided and encrusted the bottom of the pan, whilst the albumen, solidified by the heat, forms a white layer between the oil and the water. Great care must be taken to remove the pan from the fire the instant the whole of the water has evaporated; which may be known by the bubbles having ceased; for if allowed to remain longer, the oil, which has hitherto been of the temperature of boiling water, or 212°, suddenly rises to that of oil, or nearly 600°, thereby heightening the colour and communicating an empyreumatic taste and odour. The oil is then filtered through blanket, flannel, or American drill, and put into cans for exportation. It is usually of a light straw-colour, sometimes approaching to a greenish tinge. The cleaned seeds yield from 47 to 50 per cent. of oil, worth in England from 4d. to 5d. per lb.

This oil is chiefly used as a mild purgative. Soap of good quality may be made of it, but the cost and disagreeable smell which it communicates preclude its general use. The clearness, limpidness, and absence of any offensive smell are qualities that do not arise from any superiority of the seed or care in extraction, but from repeated decolorization with animal charcoal, and exposure to the sun's rays, which, in the opinion of many eminent medical men, considerably detracts from its strength and efficacy. When manufactured in the ordinary native mill, this pure oil is sometimes used by the richer classes in lamps. Castor-oil extracted hot differs from the preceding only in the mode of preparation. The seeds are boiled for two hours in water, dried for three days in the sun, freed from the shells, pounded, and then boiled in fresh water, until the whole of the oil has risen to the surface. Five seeds of the seeds, or 1½ lbs., should by this process yield a quart of oil. This is the sort generally used in medicine by native practitioners; it is straw-coloured, and free from any unpleasant taste or smell.

Castor-oil or lamp-oil, larger fruit.
 Chiragh-ka-tel, . HIND. | Ped amidum, . . . TEL.
 Vullak ennai, . . . TAM.

This is obtained from the large-seeded variety. It is sometimes drawn cold, and is then scarcely distinguishable in quality from the oil of the small-seeded variety. It is, however, more usually extracted by heat, and forms the common lamp-oil of the bazar of S. India. The seeds having been partially roasted over a charcoal fire, both to coagulate the albumen and to liquify the oil, are then pounded and boiled in water until the oil rises to the surface. The roasting process, however, gives it a deep red colour and an empyreumatic odour. The price of this oil varies in different parts of the country from Rs. 1.10 to Rs. 3.13.6 per maund of 25 lbs. The average of 19 large stations in all parts of the Madras Presidency for the quarter ending 31st October 1854, was Rs. 2.3.6 per maund.

Besides the value of the castor-oil for internal use, the oil applied externally over the glands of the body, or dropped into the ear, largely increases their natural secretions. The leaves are applied to swellings as a discutient remedy. A decoction of the leaves, and the expressed juice of the leaves, administered internally, have decided galactagogue properties; and for increasing the breasts' secretion, the application of the warmed leaves, fomentation with the decoction of the leaves, and poultices of the fresh leaves, are of decided value.—*Lt. Hawkes; M. E. J. R.; Cleg-horn; Powell's Handbook.* See Castor-Oil.

RICINUS DICOCCUS. *Roxb.* Taw-the-din-bin, BURM. This tree grows in Amboyna and in British Burma, but in the latter it is scarce, and found only on the banks of streams in the Pegu and Tounghoo districts. It yields a very tall, large timber. The wood is red, and adapted to cabinet-making. *R. mappia, Linn.*, is a tree of the Moluccas.—*Drs. Voigt, McClelland.*

RICINUS TANARIUS—? Ubar, MALAY. A tree of Sumatra. Sails and nets are dyed, and perhaps also tanned, with its wood. The mordants used are rice-bran, alkalies from the combustion of some vegetable matters, as the fruit-stalks and midribs of the cocoanut palm, and alum brought from China.

RIDDELL. Dr. Riddell, M.R.C.S., born at sea in March 1798, became a medical officer of the Bombay army in 1825, but resigned in 1828, and entered the Nizam's service, in which he rose to the rank of Superintending Surgeon. He wrote a *Manual of Gardening for Western and Southern India*; also, in 1851, *Medical Topography and Statistics of the Nizam's Stations and Army*.

RIFF, a race on the N.W. coast of Africa, from Ripa, a bank. See Semitic Races.

RIFLE BIRD, *Ptilorhis Alberti* or *Pt. paradiseus*, the Australian bird of paradise.

RIGHT-HAND CASTES.

Dakshina-bhakta, SANSK. | *Tengale, . . . TAM., TEL.*

In South India, a sectarian division amongst the Vaishnava Hindus; much animosity and quarrels occurring between the two sects styled the right and left hand, the Tengali and Idagai, the causes of which, or the points of difference, the disputants themselves are generally unable to state. The distinction of right and left hand castes is peculiar to the south of India. It is supposed by Professor Wilson to be of modern

origin, and to have been introduced at Conjeveram as a part of civil policy to divide the people and undermine their powers. But Sir Walter Elliot is of opinion that the separation into right and left hand castes had its origin in the violent conversion of the ancient races from Buddhism to Hinduism; and he has been shown a figure of Buddha, which the artisan caste worship. At present they seem to worship Viswakarma, but the bulk appear to recognise Siva as their supreme deity. In the year 1872 the figure worshipped by the goldsmiths of Madras was called Samunday-Eswara, and his pictures represent a green-coloured man with four hands, seated on a lion, one paw of which has struck down a dark-coloured warrior armed with a sword and shield. The god has a mugra cap; he has a long trident, supported between his breast and arm; in one hand he holds a lotus flower, in another a chank shell, and the other two hands are in the position usually given to those of the figures of Vishnu and Gaudama when preaching.

The artisans all bury their dead in a sitting posture, like that of Buddha, seated, with the head of the dead close to the surface, and looking to the north; and their dislike to the Brahmans is intense. Caste has, in the Peninsula, certainly nothing to do with religion, but relates solely to race. It is amongst the Tamil people that the right and left hand sections appear. The Idan-kai or Idan-gai are the left-hand caste, and the Valan-gai are the right-hand caste. According to Professor Wilson, the names and appellations of right-hand castes vary in different parts of Peninsular India, but are usually supposed to be 18 in number, viz.—

Banijaga, traders.	Agasa, washerman.
Okhaloga, cultivators.	Besta, fishermen, palanquin bearers.
Jotiphana, oilmaker, employing one bullock.	Padma Shalaya, weaver.
Rangajiva, dyer or calico printer.	Naindu, barber.
Ladaru, Muhammadan traders, artificers.	Upparavu, tank-digger.
Gujerati, bankers from Gujerat.	Chitragara, painter.
Komati, merchant shopkeepers of the Vaisya.	Gaolla, cowherd; and the Wallia, or Parayan, or Paria, who is the champion for the right-hand caste, as is the Madaga or Sakoli that for the left-hand caste.
Jaina, Jains.	
Kurubar, shepherd.	
Kumhar, potter.	

Of the left-hand castes,—Edagai, Edagai kula, Eddayai, CARN., and Idan-gai, Idam, Idakai, TAM.,—the Carnatic enumerations furnish—

Panchala, artisans.	Devangada, weaver.
a. Kammaranu, blacksmith.	Ganigar, oilmaker.
b. Badage, carpenter.	Gollur, money-carrier.
c. Kanasagar, brazier.	Pallwan and Palawan, cultivator.
d. Kallurtiga, stone-cutter.	Beda, hunter, fowler.
e. Akasale, goldsmith.	Madiga, tanner, currier, shoemaker.
Berisethi, trader.	

Right-hand caste and left-hand caste have other applications as to the worshippers of the female energies of the Hindu deities. Professor Wilson says that when the worship of any goddess is performed in a public manner, and agreeably to the Vaidik or Pauranik ritual, it does not comprehend the impure practices which are attributed to a different division of the adorers of the sakti, and which are particularly prescribed to the followers of that system. In this form it is termed the Dakshina or right-hand

form of worship, to distinguish it from the Vami or Vamachari, the left-hand worshippers, or those who adopt a ritual contrary to that which is usual, and to what, indeed, they dare publicly avow. He says the left-hand sect worship Devi, Lakshmi, Saraswati, the Matri, the Nayika, the Yogini, and even the fiend-like Dakini and Sakini are admitted to a share of homage. Siva with the two hands is an object of veneration, especially in the form of Bhairava, with which modification of the deity it is the object of the worshipper to identify himself. The worship of the Vamachari is derived from a portion of the Tantra. It resolves itself into various subjects, apparently into different sects, of which that of the Kaula or Kulina is declared to be pre-eminent. The object of the worship is, by the reverence of Devi, who is the sakti or female power of Siva, to obtain supernatural powers in this life, and to be identified after death with Siva and his sakti. All the forms of this impure worship require the use of some or all of the five Makara, Mansa, Matsya, etc., flesh, fish, wine—'women and wine are the five-fold Makara, which take away all sin.' There is nothing of all this in the Peninsula of India; nor, it may be safely said, anywhere now in British India.

RIG VEDA, SANSK., from Ric or Rich, an incantation, and Veda, from Vid, knowledge. It is one of the first or oldest of the inspired Vedas, the sacred books of the ancient Aryans, and still recognised by all Hindus. Rig signifying the science of divination, of which it principally treats, it also teaches astronomy, astrology, natural philosophy, and gives a particular account of the formation of matter, and the creation of the world. It contains 1017 hymns and 10,580 verses, doubtless the work of many men at long intervals of time. The language is archaic, involved, and elliptical; the hymns contain very little poetry of an agreeable or elevated kind, a few mixed with the most ignoble and unsuitable allusions.

The deities which the Rig Veda invoke are elemental, *i.e.* personifications of earth, fire, and water, and the winds, etc. In the 3d Ashtaka, Agni has 44 hymns addressed to him; the next to him in number comes Indra with 48; and after them, the Marut, or the personified winds, have the largest number of hymns.

Roth calculated that the mere Sanhita or metrical portion of the Vedas, as distinguished from the Brahmana or later ritual appended to each, contains not less than 30,000 couplets, of which 11,000 go to the Rig Veda.

The Rig Veda is the chief of the four Vedas, the others, the Sama Veda, Yajur Veda, and the Atharva Veda, come after it. The hymns of the Rig or Rich Veda are repeated entirely in a disjointed form in the Sama, and with little alteration in the Atharva also. The Yajur Veda contains principally forms of prayer. The Atharva Veda evidently belongs to a much later age than the rest. Each hymn is called a sakta, of which there are about 1000, arranged into 8 ashtaka or khandas of unequal extent. Another division is into 10 mandala, subdivided into 100 anuvaka. Each hymn has a rishi or inspired writer for its author. Portions of the Rig Veda had been translated by F. Rosen, M. Langlois, and Professor Wilson; but Professor Max Muller rendered the whole of it into English, and published the text,

mantra. In the hymns of the Rig Veda the Brahmanical or East Aryan tribes are shown advancing step by step along the rivers of the Panjab into the plains of the holy land, Brahnavarta, often at war with mighty kings, or engaged in hostilities with each other, each immigrating tribe pushing those in advance of them farther and farther to the south.—*Garrett; Max Muller; Rep. Brit. Ass.* 1847. See Sanhita; Veda.

RIGYAL, TIBETAN, lit. mountain king, is the origin of Plutarch's Mount Argillos (De Fluviiis), the name of the mountain on which Bacchus was born. Riga, TIBETAN, a mountain, is the same term as Mount Righi in Switzerland. Rigyal is one of the Trans-Himalayan range. The peaks of this range are from 20,786 to 21,000 feet in height. Its general direction is from south-east to north-west, and its extreme length is upwards of 850 miles. It forms the natural boundary of Ladakh, Balti, and Rongdo on the north, and Rukchu, Purik, Dras, and Astor on the south. Its passes on the eastern half of the range are from 16,495 to 18,746 feet in height, and on the western half from 12,000 to 16,000 feet.

RIHL. ARAB. A book-stand, used for supporting a Koran or prayer-book in mosques.

RIJAZ. ARAB. A war song.

RIKAB. HIND. The second note of the musical scale, 'Re.'

RIKSHA. SANSK. A bear. In Hindu astronomy the general term for a constellation. Maha-Riksha may therefore be understood either as the constellation of the Great Bear, or as the great constellation. Whether the former denomination (which is the same as the name given by Europeans to the asterism called the Great Bear) be merely accidental, or whether by that term both Europeans and Hindus mean the same object, is uncertain.—*Warren, Kalā Sanhita.*

RIKSHAVAT. Name of a mountain—literally, bear-having (from Riksha, a bear, and Avat, suffix of possession)—part of the Vindhya chain, separating Malwa from Kandesh and Berar.—*Williams' Nala*, p. 131.

RINCHOR, from Rin, the field of battle, and Chorna, to abandon. Hence Rinchor, one of the titles under which Krishna is worshipped at Dwarica, is most unpropitious to the martial Rajput. Kal-Yamun, the foe from whom he fled, and who is figured as a serpent, is doubtless the Tak, the ancient foe of the Yadu, who slew Janmeja, emperor of the Pandu.

RIND, a section of the Baluch race. See Baluch.

RING.

Mahbas, Khatim, . . .	ARAB.	Anello,	IT.
Khal-khal,	"	Circulo, Anillo, . . .	SP.
Bague, Anneau, . . .	FR.	Moderam,	TAM.
Ring,	GER.	Ungarain,	THL.
Angotha,	HIND.	Halka, Yuzuk, . . .	TUK.

Rings are used in Southern and Eastern Asia as signet rings, with a seal engraved, or for ornament, worn on the fingers, toes, wrists, ankles, or in the nose and ears. A ring is used as a marriage token in Europe; and amongst all nations and in every age the ring has been chosen as the aptest emblem of time, and such names as 'annus,' *ετος, ετος, ετατος*, and year, from Yar, to surround, mark the most recurrent period known to men.

Medicinal rings were at one time very seriously believed in. Physicians were wont to wear finger-

rings in which stones were set, and these stones were credited with the possession of many virtues. Sometimes the patient was simply touched with the ring; sometimes he put it on his finger for awhile. Many a patient has worn such a ring to stop a hemorrhage, which sedatives, absorbents, and astringents had alike failed to allay; if the desired result followed, the ring was unreservedly regarded as the healing agent; if the cure did not follow, we are told nothing about it, for in these matters 'what is hit is history, but what is miss'd is mystery!' A wine-coloured amethyst, set in a ring, was a specific against intoxication and its consequences; a hyacinth stone, similarly set, acted as a charm to produce sleep; an agate had wonderful power in curing amaurosis and other diseases of the eye; a jasper showed its value in cases of dropsy and fever; while a coral was an antidote against nervousness and causeless fears.

The ring, with the title or name on it of the owner, is used throughout the South and East of Asia to be applied to documents in the place of a signature; this is mentioned in chapter viii. 2 of Esther, where the king Ahasuerus took off his ring, and gave it to Mordecai. It is so used by Hindus and Muhammadans, even though they can write.

RINTIMBUR, a fort in the Jaipur (Jeypore) State of Rajputana, in lat. $26^{\circ} 2' N.$, and long. $76^{\circ} 30' E.$ It is situated on an isolated rock, the summit of which is surrounded by a massive stone wall, strengthened by towers and bastions.—*Imp. Gaz.*

RIPPLES occur in the Bay of Bengal, the Banda Sea, and other seas of the Archipelago. Also in the tract between the Nicobar Islands, Malacca, Penang, and Acheen Head, they have been seen 2 to 5 miles long, 200 to 400 yards broad. In their general appearance they resembled the waves of the sea breaking on a shallow, sandy shore. Some seen in 1814 by H.M. ship *Minden* advancing from the west were very gentle, so that the surface of the sea was scarcely whitened by them, their approach being indicated only by a faint noise. Others were heard several miles off, and advanced towards the ship boiling and foaming in an extraordinary manner; some of them not only dashed the water many feet up the side of the ship, but actually shook the ship. In the Straits of Singapore they presented the appearance of a shallow stream rippling over a stony bed.—*Jameson's Ed. Journ.*, 1820, ii. pp. 7-9.

RISALA-i-KHAIRATIYAH, or the Charitable Treatise. It contains a diatribe against Sufism, and especially against the great Sufi teacher of the 12th century.

RISALDAR. **HIND.** A native officer in the native army of India.

RISAM and **Rejam**, Pharaoh's magicians, called by the Jews Jannes and Jambres.

RISHABHA. **SANSK.** A bull, vehicle of Siva. Rishabha signifies excellent. Rishabanatha, 10 miles S. of Prasad, on the Udaipur and Ahmadabad road, a place of pilgrimage.

RISHI, a priesthood of Muhammadans in Kashmir who do not marry, and who abstain from animal food.

RISHI, an important term in Hindu astronomy, which, in its scientific sense, means a line or great circle passing through the poles of the ecliptic, and

the beginning of the first solar sidereal sign and first fixed lunar mansion of the respective zodiacs, and which said circle is supposed to cut some of the stars in the Great Bear, which most commentators take to be Dhube, or β Ursa Majoris, and ζ Piscium, although in reality no such circle could be made to intersect exactly these three points. This line or circle being thus invariably fixed, and the four (fixed and moveable) zodiacs conceived to coincide at a particular epoch, the variation of the moveable ones may easily be reckoned by its means, as if it were an index. Thus, suppose that the line of the Rishi should have intersected the beginning of the fixed lunar mansion Magha, as was supposed to be the case in the 1910th year of the Kaliyug (1192 B.C.), and that at the beginning of the said year the line of the Rishi was found by observation to intersect the middle of the moveable mansion Magha, then it would be said truly that the Rishis had got into

$6^{\circ} 40' \left(\frac{13^{\circ} 20'}{2} \right)$ of the moveable Magha, and these

$6^{\circ} 40'$ would mark the absolute precessional variation which had accumulated at that epoch since the time that the fixed and moveable Maghas coincided. The above explanation of the term Rishi is clearly justified by all the Hindu treatises of any weight which have hitherto fallen into the hands of Europeans; and here it may not be out of the purpose to observe that when Hipparchus (later than the 135th year B.C.), on comparing his observations of Spica Virginis (the Harshana of the Indians) with those that Simocharis had made at Alexandria about a century before, and perceived by the results that the stars appeared to have advanced (though slowly) from west to east relatively to the equinoctial points, he was far from imagining that Indian astronomers (perhaps several centuries before his time, and in all probability by observations of the same star) had already noticed the same variation, on which, in after ages, Sir Isaac Newton resolved and established the great problem of the equinoctial precession. The celebrated Indian astronomer Aryabhatta, probably puzzled how to account for the change of the position of the line of the Rishis, which, he admitted, had intersected the middle of the moveable lunar mansion Magha in the year of the Kaliyug 1910, and which he pretended to cut (when he wrote) the beginning of Aswini, imagined a curious system on the seven stars of the Great Bear, to which he supposed a proper motion to the eastward, at the rate of $13^{\circ} 20'$ (a lunar mansion) in 100 years, which amounted to 159,999 revolutions in a calpa, and which squared his account. But this absurd doctrine has long since been abandoned by all manner of Indian astronomers, many of whom in existence in 1810 had never heard of it.—*Lt.-Col. J. Warren, Kala Sankalita*, pp. 85, 245.

RISHI, amongst the Hindus, a sage, a seer, an inspired poet. In the epic period of the Hindus, a Rishi is merely a title for a historical personage; in the Puranic period, the Rishi are seven primeval personages, born of Brahma's mind, and presiding, under different forms, over each manvantara. They correspond to the Prajapati, or progenitors of the human race. Three lists of Rishis are given in the Upanishad of the Yajur Veda, called 'Vrihad Aranyaka,' each list differing from the other. Other names are given

RIVEA FRAGRANS.

later in the Sathapatha Brahmana, Mahabharata, and the Vayu and Vishnu Puranas—

Agastya.	Jamadagni.	Pulastya.
Angiras.	Kanwa.	Valmiki.
Ati.	Kasyapa.	Vashishtha.
Bharadwaja.	Kratu.	Vibhandaka.
Bhrigu.	Manu.	Visvamitra.
Daksha.	Marichi.	Vyasa.
Gautama.	Parusha.	

The names of several of the Rishi are prefixed to the hymns of the Vedas. Vashishtha is the reputed author of some of the most touching hymns of the Vedas, simple, genuine utterances, confessing sin, and yearning after an unknown God. On the other hand, Visvamitra, son of Gathi, was a king, a powerful soldier, and is alleged to be the originator of the great religious ceremonies. According to Hindu mythology, by his devotion he became a Rishi and capable of creating as well as Brahma. These two men became typical in ancient Hindu story, and they are made to reappear in the long subsequent Ramayana.

The term Rishi is also applied to the Vanaprastha Brahmans, or inhabitants of the desert. Of these the most ancient and celebrated were the seven great Rishi, or Maha Saptaite Rishi astadha, who had retired in the territory washed by the Indus; and it was to them, it is supposed, that Alexander the Great applied for instruction after invading their country.

Astronomically the Rishi are the husbands of the six Pleiades, but how six and seven can accord it may be difficult to understand, yet they have had the honour of becoming the seven bright stars in the Great Bear; and in Hindu mythology they are fabled to be married to the Pleiades, are worshipped at the festival of Shashti, and at the sacrifice called Chitra Ketu, Swar Yaga, and a drink-offering is poured out to them at the Magha bathing festival.—*Ward*, iv. p. 20.

RIVEA FRAGRANS. *Boothdee-keeray*, TAM. A beautiful variety of the convolvulus tribe, found in hedges, called the clove-scented creeper by Europeans; transparent white flowers, opening at sunset, and perfuming the air with a very pleasant odour; leaves used as greens. Wight gives *R. cuneata*, *cymosa*, *hirsuta*, *ornata*, *pomacea*, *speciosa*, and *tiliaefolia*.—*Jaffrey*; *Wight*.

RIVERS.

Nahr, ARAB., HEB.	Rud, PERS.
Riviere, Fleuve, FR.	Wah, SANSK.
Fluss, GER.	Waeter, SAXON.
Udor, GR.	Wod, SLAV.
Naddi, HIND.	Rio, SP.
Udr, ISLANDIC.	Ar, TAM., TKL.
Flume, Riviera, IT.	Irmaak, Su, Chay, TURK.
Ka-wa, Ga-wa, JAP.	Sind, "
Flumen, LAT.	

The principal rivers of the S. and E. of Asia flow into the Caspian Sea, the Persian Gulf, the Arabian Sea, the Indian Ocean, the Bay of Bengal, and the Chinese Sea. The valleys of the Oxus, the Jaxartes, the Indus, and nearly the whole of that of the Euphrates, being at the extremities of Iran, that territory, in addition to the Tigris and Araxes, with their tributaries, has only the advantage of the Salyan, the Aji, Jeghetu, and Safed-Rud towards the north; the Zend-Rud, Indian, and Bendamir in the centre; the Helmand, with its tributary, and the Farrah-Rud, more eastward. Besides these, there are some inferior streams, which after a short course are either lost by

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absorption or become saline. The Bay of Bengal receives the Ganges, Brahmaputra, Mahanadi, Godavery, Kistna, Pennar, Cauvery, Irawadi, Salwin, etc.

Rivers of India, the areas of their basins and the lengths of the main streams, are as under; area in English square miles, and length in English statute miles:—

A.—Basins of the Arabian Sea, area 629,600.

	Area.	Length.
Indus,	372,700	1800
Thur Desert,	68,700	...
Western Ghats Basins,	41,700	...
Nerbadda,	36,400	472
Kattyswar and Cutch Peninsulas,	27,600	...
Tapti,	27,000	441
Lunee,	22,400	320
Myhie,	15,500	350
Sabarmati,	9,500	200
Western Bannas,	6,300	180
Dhadur,	1,800	...

B.—Coromandel Side, Bay of Bengal.

Godavery,	112,200	898
Kistna,	94,500	800
Mahanadi,	43,800	520
Cauvery,	27,700	472
Orissa Coast Basins,	22,200	...
Pennar,	20,500	355
Brahmany,	15,400	350
Gundla Ganga,	10,300	...
Pulicat Lake,	6,700	...
Palar,	6,300	220
Pennar,	6,200	245
Villar,	4,500	...
Vypar,	3,900	...
Tambraparni,	3,600	80
Colar Lake,	3,100	...

C.—Northern and East Side, Bay of Bengal.

Brahmaputra,	361,200	1800
Ganges,	301,100	1514
Irawadi,	150,800	1060
Salwin,	62,700	750
Arakan Basins,	29,700	...
Sitang,	18,300	230
Tenasserim Coast Basins,	14,200	...
Byturni,	11,900	345
Sabunreka,	11,800	317

The catchment areas and the flood discharges of rivers of Southern India are as follows:—

River.	Catchment Area. — Sq. miles.	Flood Discharges.	
		Cubic feet per second	Discharge per sq. mlla. — Cubic feet per second
Godavery at Rajamundry,	120,000	1,350,000	11.2
Kistna at Boswara,	110,000	1,188,000	10.8
Cauvery at Seringham,	28,000	472,000	16.9
Pennar at Nellore,	20,000	359,100	18.1
Tumbudra at Kurnool,	20,000	270,000	13.5
Palar at Arcot,	3,700	270,000	74.2
Tambraparni at Palamcottah,	587	189,000	324.0
Cauvery at Frazerpot,	415	111,000	267.3
Vaiga at Madura,	1,600	43,200	27.0
Chettar at Alligayapandrapuram,	486	29,700	60.8
Gadana Mathi,	29	28,088	972.0
Hazana Mathi at Periacolam,	41	8,100	202.5
Initi at Malabar,	336	14,985	446.0
Manjilantha at Balagunta,	90	10,800	121.5

The Persian Gulf and the Arabian Sea receive the rivers Shat-ul-Arab, Indus, Lunee, Nerbadda, Myhie, Tapti, and numerous streams and torrents from the Western Ghats. The Himalaya gives

forth five great rivers,—the Ganges, Brahmaputra, Indus, Sutlej, and Kurnali or Gogra. These are called by the Tibetans, Tam-jan-khamba or Horse's Mouth, Shingh-gi-khamba or Lion's Mouth, Langchan-khamba or Bull's Mouth, and Mahja-khamba or Peacock's Mouth. The last four rivers drain the Kailas group of mountains. They rise close to the great Kailas Purbut.

The *Euphrates*, the Forat or Forath of the Hebrews, and the Perath or Phrath of the Arabs, rises near the shores of the Black Sea, and joins the Tigris after a course of 950 miles. It has two great sources in the Armenian mountains, the more northern of which is the Anti-Taurus, 25 miles N.E. of Erzerum.

The *Tigris* river is known to the people as the Dijlah. It is formed of three main branches,—the Diarbeker stream or true Tigris, the Myafarekin river, and the Bitlis-chai or Centrites of Xenophon. It enters on the low country near Jazirah; at Argunna is but a little brook; whilst the Euphrates, even at Malatea, is a very noble river, about a hundred yards wide. The Tigris varies as much in the rapidity as in the depth of its stream, both being governed by the periodical waters that rush from the mountains of Armenia, where its sources are about 50 miles north-west of the valley of Diarbeker. It flows thence with a swiftness that gave it the ancient Persian name of Tir, the arrow, which is descriptive of its course. The average rate of its current is about seven knots an hour. It begins to rise in March, is highest in May, and in June returns to its natural level. Its first swell is produced by the melting of the winter snows in the mountains; its second appears towards the close of October or the beginning of November, and rises immediately after the annual rains in those high regions. But it is only during the spring torrents that a complete inundation covers the land, and the city of Baghdad stands like a castellated island in the midst of a boundless sea. It has an average width of 200 yards from Mosul to Baghdad, with a current in the high season of about $4\frac{1}{2}$ miles per hour. The country is highly cultivated from Mosul to Nimrud on both sides of the river, but from the latter place to Tekrit all cultivation nearly ceases; and it is but partially found in the tract along the river between Tekrit and Baghdad. The Tigris is navigable for rafts at certain seasons from the bridge of Diarbeker to Mosul, a distance of about 296 miles. Below the latter place it is more or less so throughout the year, and the descent to Baghdad is performed with ease and speed. Large rafts, supported by 200 or even 300 inflated skins, are much in use for the transport of goods, and when the merchants are on board, a small room is raised on the raft in order to give shelter from the sun and rain. Since the middle of the 19th century a steamship company has been trafficking on the Tigris. The lands on either side of these two rivers are occupied by nomade tribes of Arabs. The two rivers unite near Kurnah, and form the Shatul-Arab, which disembogues into the Persian Gulf.

The *Kum Feroz* river, across which Amir Azan Delemi built the Band-i-amir (Bend-amir). It is the Aras, a modern name of the ancient Araxes, the Awerma of the Puranas. It laves the foot of the rock Istakhr. The snowy Ardegan mountains are the same with those which presented so for-

midable a barrier to Alexander's progress, and by whose slopes he descended into Persia in his advance on Persepolis. The sources of the Aras and those of the north branch of the Euphrates are about ten miles from one another. Pliny stated that those sources are in the same mountain, and 600 paces asunder. This river at its commencement, owing to its many affluents, bears the Persian appellation of Hazara. It springs from the side of the Bin Gol, or Mountain of a Thousand Lakes, about 80 miles south of Erzerum, and nearly in the centre of the space between the eastern and western branches of the Euphrates. Its course, from its first spring near Jabal Seihan, is almost north-east for about 145 miles through Armenia, when it turns eastward, being then near the frontier of Kars. This proximity continues for 110 miles. In modern times, the north-eastern districts, along the banks of the Araxes, intervening between Aderbijan and Georgia, have been in general subject to the sovereigns of Persia.

Central Asia, between India and Tartary, is one broad mountain range, the Himalaya forming the southern crest, and the Kouen Lun the northern. The interior has some lovely valleys like Kashmir, but it is more usually broken into rocky ravines, through which affluents of the Indus force their way towards the plains; or else stretches away in those vast treeless uplands, which are one of the chief characteristics of the range through its whole extent. The direction of this range is from east to west, trending slightly to the north, while the parallel chain that bounds Siberia to the south, and the outer crest of which is the Tian Shan, trends somewhat to the south; so that at a short distance to the west of Yarkand and Kashgar, the great interior depression of Chinese Tartary terminates, and the boundary ranges coalesce in the elevated table-land of Pamir. The ascent from Yarkand and Kashgar westward to the table-land of Pamir is almost imperceptible; and when that lofty position is gained, where the average elevation is probably as much as 15,000 feet above the sea, a vast open plain is seen, which stretches from the valley of the Jaxartes (Syr Darya) in one direction, across the head-streams of the Oxus (Amu Darya), to the top of the Kashgar or Chitral valley in another. This plateau may be 700 or 800 miles in extent. It is studded throughout with lakes, and from it descend four great river systems. The Naryn, which is the main stream of the Jaxartes, runs through a long, luxuriant valley, between the culminating ridge and outer range of the Tian Shan, and drains all the northern range of the plateau. The Oxus, rising in the Sari Kul or Yellow Lake of Pamir, at least 300 miles to the south of the Jaxartes, receives from its right bank a multitude of small streams, which run to the south through rugged valleys, on the south-western face of the Pamir uplands. The western face of Pamir between the Jaxartes and the Oxus is far more precipitous than the eastern. Ridges run out as far as Samarcand and Karshi, and the streams from the upland which twine amongst these ridges form the Zar-afshan and Karshi part of the water system of the Oxus, though before they reach that river they are entirely consumed in irrigation.

The Indus water system is formed on the

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south-eastern extremity of Pamir, where the table-land is lost in the rocky summits of Muz Tagh, and a number of streams drain off to the southward, forming two subsidiary Indus systems. A culminating ridge, Pusht-i-khar, or Ass's Back, which runs out from the south-east corner of Pamir, is the true watershed between Tibet and Kābul, the streams flowing to the southward being separated by the shoulder which joins the Hindu Kush from the streams descending through Vakkan and Badakhshan to the Oxus, and forming the Kābul river, which falls into the Indus at Attock; while those that flow to the south-east and are divided by the Muz Tagh range from Tartary, descend through a series of rocky valleys and precipitous gorges into the Upper Indus at Little Tibet.

From the eastern face of the Pamir, again, which slopes off very gradually into the plains of Tartary, is supplied a fourth water system, in the form of a series of small streams, which, passing by Yarkand and Kashgar, are ultimately lost in the sandy desert, or in some cases reach the central lake of Lob Nor.

The basins of the Amu and Syr Darya are partly in Russian, partly in Persian territory, and partly in that of Afghan Turkestan, under chiefs subordinate to the Amir of Kābul, and are largely occupied by Turk, Turkoman, and Iranian races, the two former being almost all of them nomads and predatory. The sources of these rivers are in the table-land of Pamir, and those of the Amu, first seen by Lieutenant Wood in the early part of the 19th century, have since been visited by other explorers.

The *Indus* is a magnificent river; it rises in the Kailāsa or Gangri range, in lat. $31^{\circ} 20' N.$, and long. $80^{\circ} 30' E.$, 1700 feet above the sea, and has a course of about 1977 miles. It is known in the Tibetan of Ladakh as the Tsang-po, the Sam-po-ho of the Chinese Pilgrim Hiuen Tsiang. A few miles from Leh it receives the Zaskar river, and its bed at Pitak below Leh is 10,500 feet above the sea. At Mittunkot the Indus is often 2000 yards broad, and near this place, in lat. $28^{\circ} 55' N.$, and long. $70^{\circ} 28' E.$, it is joined without violence by the Panjnad, a large navigable stream, the collected waters of the Sutlej, Beas, Ravi, Chenab, and Jhelum, after which its bed never shallows in the dry season to less than fifteen feet, and seldom preserves so great a breadth as half a mile. The whole length of its mountain course from its source to Attock is about 1035 miles, and the whole fall is 16,000 feet, or 15.4 feet per mile. From Attock to the sea, the length is 942 miles. Its maximum discharge, above the confluence of the Panjnad, occurs in July and August, when it is swollen by the seasonal rains, and it then reaches 135,000 cubic feet, falling to its minimum of 15,000 in December. Up to this confluence it is known by various names, viz.:

Sam-po-ho, . . .	CHIN.	Saind'hava, . . .	SANNK.
Sin Tow, . . .		Sing-ge-chu, . . .	TIBETAN.
Tsang-po, . . .	LADAKH.	Sin'h-ka-bab, . . .	"
Aba Sin, . . .	"		

Sing-ge chu means the lion river, and Sin'h-ka-bab the lion's mouth. From the confluence, in its route through Sind, it is known as the Sur, Siro, or Sera, down to Schwan; as the Wicholo or central from Schwan to Hyderabad; and as the Lar from Hyderabad to the sea. The

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racas occupying the countries near are the Bhot, the Afghan, the Jut, the Baluch, the Brahui, the Rajput, and the Lar. The Indus guards the western frontier of British India, and in all the military operations of the British since 1834, in Afghanistan and Sind, the Indus has been of great value as a means of communication. During the war of 1845-1846 in the Panjab, a bridge of boats was carried up the river as far as Bahawalpur, and thence despatched up the Gharra to Ferozpur; and another branch of the river, the Chenab, was in a subsequent war navigated up to Multan.

The *Tarim* debouches into Lob Nor, an inland sea, into which the waters of several rivers flow. The Tarim is about 800 miles long; the lake is in a considerable depression, not more than 2000 feet above sea-level.

Three large rivers flow through Kafiristan from north to south, and augment with their waters the river of Kābul and Jalalabad, which ultimately falls into the Indus. The two westerly rivers unite at Targari of Lughman, and the joint stream, after a short course of eight or ten miles, falls into the Kābul river at Lergah, in the same district, about a mile to the east of Mandarawar. The easterly river, known as that of Kameh, falls into the Kābul river east of Jalalabad, and at a distance of about twenty-five miles from Kergah. The Kameh flows through Chitral, and its source is more remote. On the east it may be considered the boundary of the Siahposh territory, as the river of Nadjil and Alishang forms the boundary on the west. The sources of the Nadjil river are said to be not very distant, and it is the smallest of the three rivers.

From the central axis of the Himalaya, a succession of secondary ranges take their origin, which descend on the one hand towards the plains of India, and on the other towards the northern rivers. These secondary chains on the Indian side separate great rivers which flow towards the plains of India, and which, successively uniting in their courses through the plains, ultimately discharge their waters into the Indus and Brahmaputra, from which they are at first separated by the whole breadth of the Himalaya. The great rivers from west to east in succession are the Jhelum, the Chenab, the Ravi, the Beas, the Sutlej, the Jumna, the Ganges, the Gogra, the Gandak, the Kosi, the Tista, the Monas, and the Sulansiri. All these are separated by chains at first of great elevation, but which terminate at last abruptly in the plains of India.

The rivers of Northern India are shallow, turbulent streams, traversing a vast extent of more or less level country, the bottom usually of sand or mud, which as a mass is constantly on the move towards the sea, the channel consequently always shifting its position, and the depth very uncertain. The navigable channel, although deep enough, is often difficult to discern in a wide expanse of waters, or among sandbanks intersected in every direction by blind channels, among which the open one is undistinguishable. The current often presents whirls or eddies running contrary to the stream, which frequently shoots from an abrupt turning at such an angle to the course of the stream as to deprive the rudder of its command, and throw a boat violently across the stream, or even turn her round.

The richest and altogether most important part

of British India is that which extends from Calcutta to Peshawur, and comprises the whole valley of the Ganges and the Panjab. The course of the great rivers through this region marks the prevailing slope of the land, which falls on every side from the Himalayas, the Rajputana uplands, and the Vindhyan plateau towards the seaward opening of the Arabian Sea and of the Bay of Bengal.

The chief rivers of the N.W. Provinces are the Ganges, the Jumna, and the Gogra. Among minor streams, the E. and W. Kali Nadi and the Hindan flow through the Doab. The Chambal intersects the Trans-Jumna tract in Etawa. The Betwa and the Ken are the principal streams of Bundelkhand. The Ganges, with its tributary the Jumna, collects the rainfall from the southern slopes of the mountain wall, and pours it down upon the plains of Bengal.

Towards the delta of the Ganges and Brahmaputra, when the volume of water, increased by the Himalayan snows, is swelled by ordinary or abnormal rains, all channels are united in one huge expanse of water, miles in breadth. The surrounding country is an inland sea, over which communication is maintained in skiffs and canoes between one village and another. By the month of October the waters subside. In the dry season huge masses of earth can be seen falling under the action of an undermining current, and the noise can be heard several hundreds of yards off. Owing to the annual overflow of its network of rivers, the level of the plains of Lower Bengal is gradually rising.

The *Jamuna* or *Jamooana* river of Northern Bengal in Rennell's time joined the Brahmaputra, whereas it now joins the main stream of the Ganges near the railway station of Goalundo. On the *Jamuna* is situated the important mart of Sirajganj, perhaps the richest of all the centres of trade in the interior of Bengal. Till about 1840 this capital of the trade in jute stood on the banks of the river. In 1848 the floods carried the town clean away, whereupon the traders formed a new bazar on the new bank, five miles from the original spot. When the stream, in another sudden caprice, went back to its old bed, the traders, warned by experience, preferred remaining where they were. Huge boats are now moored in the mid-stream miles from the bank, and business is done by merchants and brokers, who move about in small boats, or traverse what, in the hot season, is a blinding waste of sand some miles in extent. The real Sirajganj has been happily described as a town without houses. But it has a population of 18,000, and an aggregate trade, imports and exports, of 34 millions.

The *Tista* rises in Independent Sikkim or in Tibet, or in both countries. Its upper reaches display rocky pools, huge boulders, wooded banks, and picturesque scenery. When it descends to the plains, these peculiarities are exchanged for a fine channel often 800 yards wide, which, even where the volume is least, will float boats of three and four tons burden. The history of the freaks of this stream is very suggestive. In the survey by Major Rennell, the *Tista* flowed due south, joined another river in Dinajpur, and finally emptied itself into the main stream of the Ganges. In 1787 the *Tista* was choked by excess of silt, and burst its banks, when the accumulated waters

forced their way into a small branch, which, after flooding the country and causing immense damage, they gradually so enlarged as to form a junction with the Brahmaputra, which still exists.

The *Mahanadi*, in the province of Cuttack, rises in a mountainous and wooded region, and, after a tortuous course between ridges of hills and over ledges of rocks, divides into two or more main channels, and has often threatened to sweep away the town of Cuttack. But the volume of waters has been confined and utilized by engineering skill. A series of canals, at a considerable outlay, will guarantee the province against a recurrence of the terrible famine of 1866.

Except the Nerbadda and Godavery, unless great engineering skill be applied, there are none of the rivers of the Peninsula of India likely to prove navigable. The waterfalls on the Nerbadda river are those of Kapila-dhara and Dudh-dhara near its source,—the former of 78 feet. The next is at Umara in the Narsinghpur district, of about 10 feet. At Mandhar, 90 miles below Hoshangabad, and about 25 below Handia, there is a fall of 40 feet; at Dadri, near Punasa, 25 miles below Mandhar, there is another fall of 40 feet.

The British Indian Government tried to make the Godavery navigable. The rivers embraced under the Godavery navigation project are the Godavery, Wardha, Pranhita, Wain - Ganga, Indrawati, Sabari, and Pain - Ganga. The three first, however, are the principal streams. The Wardha takes its rise in the Baitul district, west of Nagpur, and, after flowing for some distance in a south-east direction, is joined by the Wunna, which, passing under Hinginghat, falls to the south, and forms its junction with the Wardha, at a place called Sweet, 18 miles south of the latter place. At this confluence are the falls of Zoorate, and under them is the village of Chuhmunder, which was supposed to be the limit of the contemplated engineering operations. The Wardha flows on to the south-east, until, a little before reaching Chanda, it is joined by the Pain - Ganga, when, losing the names of Wardha and Pain - Ganga, the united stream continues under the name of Pranhita to its junction with the Godavery, a few miles below the station of Sironcha. Midway between these confluences is situated the third or Dewalamurri barrier, extending round in a curve for about 50 miles, and midway down this barrier the Wain-Ganga discharges itself into the Pranhita. From the confluence of the Godavery and Pranhita below Sironcha to the sea, the river carries the former name, although joined at intervals by the Indrawati and other tributaries above specified. Thirty miles below Sironcha is the second or Enchampally barrier, and eighty miles below this again is the first or Sinteral barrier.

The *T'san-pu*, or Brahmaputra, like the Sutlej, rises near to the sacred lake of Manasarowar. Indeed, the Indus, the Sutlej, and the Brahmaputra may be said to start from the same water-parting. After receiving several tributaries from the confines of the Chinese empire, the river (Brahmaputra) bends round a lofty eastern range of the Himalayas, and enters British territory under the name of the Dihang, near Saddiya in Assam. A few days' journey from Saddiya, the frontier town of Assam, there is a station called Bonga, where Roman Catholic missionaries have their

solitary home. Here is the meeting-place of the frontiers of India, Burma, China, and Tibet. Taking our stand at this spot, and looking south, we have five great rivers, all destined to play a great part in the future trade of Europe, and in the regeneration of the people who swarm on their banks. To the west is the Brahmaputra, which bears the tea of Assam to its destination; to the extreme east is the Yang-tse, the great river of China; and flowing directly south and almost parallel at distances of about 200 miles from each other are, in order from the Yang-tse, the great Mei-kong or Cambodia river, the Salwin, and the Irawadi. On the delta of the first the French have planted themselves, and already their steamers have sailed up towards China and Burma, till stopped by the rapids.

The T'san-pu river rises close to the sources of the Indus and Sutlej at a height of 16,000 feet. Running eastward it falls to 14,200 feet at Tadum, 11,800 feet at Shigatze, and 11,300 feet near Lhasa. It is almost certain that this river joins the Brahmaputra in Assam under the name of the Dihang. This mighty river runs from the N.E. of India, from Brahmakund to Goalpara, for a mean length, exclusive of its numerous small curves, of more than 400 miles. The level of the Brahmaputra at Saddiya is 210 feet. A little to the south of the entrance of the Tista begins that part of the river where the stream branches off in the shape of a delta, and shortly joins with that of the Ganges. The ebb and flood of the tide extend, in the season when the river is low, upwards beyond Dacca; the fall from Saddiya to the delta consequently amounting to half a foot per mile. The Brahmakund is a very deep basin-shaped enlargement of the river, just before it emerges from the mountains to descend into the plains of Assam. The velocity of the current, which both above and below the Brahmakund is very great, suffers a great diminution at this point. In this S.W. course, along the whole length of the left shore of the Brahmaputra, and nearly parallel to the broad valley through which it runs, we meet with a longitudinal range of secondary hills, inhabited by the various scattered tribes of the Naga, Khassya, Jaintia, and Garo. It disembogues into the Bay of Bengal through three mouths, after a length, in the plains, of 933 miles. It receives in its long course the T'san-pu, 1000; Dihang, 140; Noa Dihang, 100; Buri Dihing, 160; Subansiri, 180; Manas, 189; Bagni, 150; Guddala, 160; Dharla, 148; Tista, 313; Barak, 200; Gumi, 140 miles.

The delta branches of the Brahmaputra and Ganges intersect Lower Bengal in such a variety of directions as to form a complete system of inland navigation. The Brahmaputra begins to rise in April, owing to the melting of the snow at its alpine sources. About the 1st July it is at full flood, and all the level country is submerged, herds of buffaloes, deer, and hogs then swim for refuge to the hills. The Brahmaputra drains Assam in every direction. It is known in Assam by the name *Hiranya* or golden. In the rainy season it rises 30 or 40 feet above its lowest level, overflows its banks, and inundates the country like an inland sea. In the dry season it is a labyrinth of half-filled channels, rendering the navigation intricate and fit only for steamers of

light draught. It is not navigable higher than Dibrugarh. As seen from Ogri Hill near Tezpur, the river is sweeping along in a bed of from ten to twelve miles in breadth, with numerous islands covered with canes and shrubs. The chief towns on the banks of the river are Bishnath, Durrung, Gowhaty, Goalpara, Nasseerabad. It is navigated from the Bay of Bengal to Dibrugarh, near the head of the Assam valley, within 500 miles of Pengshaw, on the Yang-tse-kiang river. Of these 500 miles 300 are known. Megna and Brahmaputra are names of the same river in different parts of its course; the Megna falls into the Brahmaputra, and though a much smaller river, communicates its name to the other during the rest of its course.

The Aryan Hindu and the non-Aryan races who occupy British India continue to worship springs and fountains and other natural objects. This has been a custom with many races. The fountain of Egeria, the Fontinalia Romana, the *Aquæ Ferentinæ*, and the sacred wood where the *Feriae Latinae* were celebrated, were under the especial protection of some divinity. Pansanias says that at Phocis in Achaia, there was a fountain called Hama, consecrated to Hermes, near which thirty enormous straight stones had been erected at a very remote period, when instead of images the Greeks adored blocks of stone. Such was also the religion of pagan Ireland.

And still the Ganges river by Hindus is esteemed sacred. Many persons, whose relations die at a distance from the Ganges, at the time of burning the body preserve a bone, and at some future time send or bring this bone and commit it to the river. The work called *Kriya-yogasara* contains the following curious story:—'A Brahman, who had been guilty of the greatest crimes, was devoured by wild beasts; his bones only remained. A crow took up one of these bones, and was carrying it over Ganga, when another bird darting upon it, the crow let the bone fall. As soon as the bone touched Ganga, the Brahman sprang to life, and was ascending to heaven, when the messenger of Yama, the judge of the dead, seized him as a great sinner. At this time Narayana's messengers interfered.'

The confluence of rivers, called *Sangam* by Hindus, is held sacred by these religionists; the forks of the Ganges and Jumna at Allahabad, of the Ganges and Gandak at Patna, may be mentioned, and pilgrims visit them in large numbers. The tongue of land where the Ganges unites with her great sister river the Jumna, is the true Prayag, the place of pilgrimage to which hundreds of thousands of devout Hindus repair to wash away their sins in her sanctifying waters. A legend tells us that at Allahabad or Prayag the clear and undimmed glance of Hindu faith can discern a third stream, besides those visible to ordinary mortals, the Jumna and the Ganges, which there unite just below the fort. But the Ganges at her estuary is not less sacred than her source. Sangor Island, at her mouth, is annually visited by a vast concourse of pilgrims, in commemoration of her act of saving grace, when, in order to cleanse the 60,000 damned ones of the house of Sangor, she divided herself into a hundred channels, thus making sure of reaching their remains, and so forming the delta of Bengal. Devout Hindus make a six years' pilgrimage from

the source of the Ganges to the mouth and back again. It is known as a pradakshina, or a circumambulation, and is still performed by many; and a few of the devotees may be seen wearily accomplishing the meritorious penance of measuring their length along certain parts of the route. To die and be buried on the river bank is the last wish of millions of Hindus. Even to exclaim Ganga! Ganga! at the distance of 100 leagues from the river, say her more enthusiastic devotees, may atone for the sins committed during three previous lives.

Karnafuli, a river of Chittagong, which dis-embogues into the Bay of Bengal.

Irawadi.—The sources of this great river are between lat. 27° and 28° N., and long. 97° 30' E. The transverse range, which separates the upper part of the western branch of the Irawadi from the valley of Assam, is of moderate elevation, varying probably between 5000 and 6000 feet. The slope of its valley is greater than that of the Indus or Ganges. The valley of Hukum is said to be 1000 feet above the level of the sea. The central branch of the Irawadi at Manchi, in lat. 27° 20' N., is 1800 feet; at Bharno, in lat. 24°, about 500 feet. Along its bank, hills frequently approach, and some of them close to the river are 3000 or 4000 feet high. Amongst the high mountains at its source the rainfall is considerable; at its centre, the fall of rain is comparatively small, but much rain falls at its delta. The valley of Manipur is drained by the westerly tributary of the Irawadi. The valley of the Irawadi at its lower end unites with that of the Sitang to form an extensive plain stretching from Cape Negrais on the west to Martaban on the east. The water-parting between these two streams is the Pegu Yoma range, which, running north and south, terminates in low hills at Rangoon. The valley is about 80 miles broad at the frontier line, counting from chain to chain. It flows for 660 miles before reaching the British possessions, and thence its waters roll on for 240 miles to the sea in a S.S.W. direction. As it nears the coast it divides, converting the lower portion of the valley into a network of tidal creeks. A little above Henzadah, about 90 miles inland, it sends off its first branch to the westward, which, flowing past Bassein, receives the waters of the Pammawadi and of the Penglaygalay, and, bifurcating, enters the Bay of Bengal by two main mouths, the Bassein and the Thekkay-thoung rivers. The waters of the Irawadi commence to rise in March, and continue to rise till September, when, or in October, they commence to fall again, having risen 37 or 40 feet. Just below Rangoon it is joined by the Pegu and Puzundoung rivers, flowing from the east and north-east. The Pegu and the Puzundoung rivers rise close together in the Yoma range, about 58 miles above the town of Pegu, the capital of the ancient Talaing kingdom conquered by the Burmese under Alompra, and which gives its name to all this portion of the country.

The *Sitang* river rises far north of British territory, which it enters just above Tounghoo. Here it is narrow, and navigable with difficulty for large boats during the dry season.

The *Menam* river empties itself into the bottom of the Gulf of Siam. It washes Bangkok, the capital of Siam.

Mei-kong, or Cambodia river, empties itself in

the China Sea, at the entrance of the Gulf of Siam.

The *Hoang-ho* of China rises in the Kouen Lun range, from springs which the Chinese figure to themselves as the starry sea. After bursting through several water-partings, making wonderful bends near the base of the Mid Asia plateau, it traverses Northern China, and confers agricultural prosperity on 120 millions of souls. Its course within the plateau is about 400 miles, and its water-supply is there perpetually snow fed.

The *Yang-tse* of China has its source in the Kouen Lun. It is undoubtedly one of the finest rivers in the world; it takes its rise on the north-eastern edge of the plateau of Tibet, and, after traversing the Koko-Nor, enters China at the province of Kan-su; it then leaves it again to water the sandy plains at the foot of the Alechan mountains, surrounds the country of Ortos, and, after having watered China from south to north, and then from west to east, goes on to throw itself into the Yellow Sea. The waters are pure and beautiful at their source, and only assume their yellow tint after passing the Alechan and the Ortos. The river rises almost always to the level of the country through which it flows; and to this is to be attributed the disastrous inundations which it occasions. These floods, so very fatal to China, are of little consequence to the nomadic Tartars, who have only to strike their tents and move off elsewhere.

After quitting the plateau of Mid Asia, it passes through provinces of China so thickly peopled that they have been estimated to hold 120 millions of people, supplying the means of irrigation and water traffic; and, after a course of 700 miles, enters China proper. Its water-supply is immense and unfailing, obtained largely from the snow-clad and ice-bound regions at its source. It forms, with the Hoang-ho, a twin basin to which the most advanced and powerful eastern civilisation owes its development.

Ho T'u Loh-Shu of the Chinese means the plan (or diagram) of the Yellow River, and the writing (or book) of the river Loh. By this phrase are designated the systems of diagrams and arrangement of the ordinal numbers. These, according to ancient tradition, were revealed to the sages Fuh-hi and Yu in a supernatural manner. Kung Ngan-Kwui gave form to the legends, which relate that a dragon-horse with symbols on its back, and a tortoise with a scroll of writing on its back, came out of the river, which Yu interpreted and made the basis of his ninefold division of philosophy.—*Schlagentweit, General Hypsometry of India*, ii. p. 98; *Kennell's Memoir*, pp. 337, 361; *Fraser's Himalaya Mountains*, p. 468; *Herbert; Hodgson; Tod's Rajasthan*, i. p. 16; *Rep. Royal Com.*; *Ward's Hindoos*, i. p. 275; *Pliny*, lib. vi. c. 9, in *Malcolm's Persia*, ii. p. 212; *Journal Royal Geo. Soc.* vi. part ii. p. 200; *Kinnear's Geographical Memoir*, p. 9; *Porter's Travels*, ii. p. 258; *Maurj's Physical Geography*, p. 308; *Imp. Gaz.*; *Trelawney Saunders' Mountains and River-basins*.

ROADS have existed in India from the most ancient times, but since artillery has been used in war, and since parts of India have been in the possession of the British, the French, the Dutch, the Portuguese, and the Danes, efforts have been made to extend them. Roads were made by the

Greeks and Romans, but never by the Arab or the Jew. The British, on assuming the government of the country, found that the roads which the Moghul emperors were said to have made had not been paved. In 1850, Lord Dalhousie commenced a road from Hindustan to Central Asia, from which, even in an unfinished state, benefits have arisen. The original idea was that the road should be available for wheeled carriages through its entire length. The Grand Trunk Railway, the Via Appia of India, runs for 1200 miles, from Calcutta to Lahore. The Simla, Naini Tal, Ranikhet, and Darjiling roads scale the steep slopes of the Himalayas; and the Ganges, Bari Doab, and Kistna canals are triumphs of engineering skill. India is traversed by railroads from side to side, and from sea to sea, by several almost parallel lines. Each of the seaports of the Peninsula is the terminus of at least one line, and within the whole length and breadth of the land there will not be two places of prime importance from one to the other of which passengers and merchandise may not be carried by rail.

ROALA, an Arab tribe in Syria, who have a war cradle, a car composed of ostrich feathers, in which the most beautiful of their maidens is carried before them in their fights.

ROBERTS, an American missionary who, in 1830, with an earnest Chinese disciple, kindled the great evangelical movement amongst the Chinese, which the Tae-ping blended with a national struggle.—*Bunsen, God in Hist.* i. p. 270.

ROBERTS, MAJOR-GENERAL SIR FREDERICK, G.C.B., V.C., C.I.E., Bart., a highly-distinguished officer of the Royal (Bengal) Artillery, who earned great fame in Hindustan and Afghanistan. He served throughout the Indian Mutiny of 1857-58 as Dy. At. Qr.-Mr.-General of Artillery, including the siege and capture of Delhi from the 28th June to the 20th September (wounded 14th July, horse shot 14th September), in the actions of Balandshahr (horse shot), Alighur, Agra, Kunoj (horse sabred), and Bandhara; present in the skirmishes prior to and throughout the operations connected with the relief of Lucknow by Lord Clyde; operations at Cawnpur from 28th November to 6th December 1857, and defeat of the Gwalior Contingent; action of Khudagunge, re-occupation of Futtebhur, storm of Meerangunge, action of Koorsee, and the various operations ending with the capture of Lucknow (thanked by the Governor-General, Victoria Cross, brevet of major, medal with three clasps). Employed on special service with the expedition of 1863 against the tribes on the N.W. Frontier of India, and was present at the storming of Laloo, capture of Umbeyla, and destruction of Mulkah (medal with clasps). Served in the Abyssinian campaign from January 1868, as Assistant Quartermaster-General with the Bengal Brigade; and as Senior Officer of the department at Zoulla, superintended the re-embarkation of the whole army; was selected by Sir Robert Napier as the bearer of his final despatches (brevet of Lt.-Colonel and medal). Served as Assistant Quartermaster-General and Senior Staff Officer with the Cachar Column, Lushai expeditionary force in 1871-72; and was present at the capture of the Kholei villages, and attack on the Northlang range. Commanded the troops engaged at the burning of the village of Taikoom, 26th January 1872 (C.B.). Has been twenty-three times mentioned in despatches. Commanded the Koorum field

force from the commencement of the Afghan war in 1878, and was present at the storming and capture of the Peiwar Kotal, and the pursuit of the Afghan army to the Shutargardau, at the affair in the Mugaor pass, and during the operations in Khost (received the thanks of both Houses of Parliament, and K.C.B.). Commanded the Kabul field force during the advance on and occupation of Kabul in the autumn of 1879; and present in the engagement at Charasiah, and throughout the operations at Sherpur during the winter of 1879-80. Commanded the Kabul-Kandahar field force which marched from Kabul to Kandahar in August 1880, relieved the Kandahar garrison, and on the 1st September defeated and dispersed the army under Ayub Khan (G.C.B., baronet, medal with four clasps, and bronze decoration). He was appointed Commander-in-Chief of the Madras army.

ROBIN. The Indian black robin, or dayal bird, *Thamnobis fulicata*, L., is generally distributed over most parts of Hindustan, and always found near the habitation of man. In manner and habits it is the oriental representative of the red-breast, just as the migratory thrush takes the place of the thrush with the Canadian emigrant. In the elevations of the Kandyan country there are a few birds, such as the robin of Newera ellia, and the long-tailed thrush, whose song rivals that of their European namesakes; but, far beyond the attraction of their notes, the traveller rejoices in the flute-like voices of the oriole, the dayal bird, and some others equally charming, when at the first dawn of day they awake the forest with their clear reveillé. The Ceylon dayal bird, *Copsychus saularis*, Linn., is called by the Europeans in Ceylon the magpie robin, but is not to be confounded with the other popular favourite, the Indian robin, *Thamnobis fulicata*, Linn., which is never seen in the unfrequented jungle, but, like the cocoanut palm, which the Singhalese assert will only flourish within the sound of the human voice, it is always found near the habitations of men.—*Tennent's Ceylon*; *E. L. Layard*.

ROBINIA AMARA. Ku-san and Ti-hwai, CHIN. A plant of Ho-nan in China; roots medicinal. *R. macrophylla*, GANJ., HIND., is a huge climber, common a little to the west of the Jumna.

ROC, Rukh, or Rokh, a bird of gigantic stature, supposed, if not wholly fabulous, to be now extinct, and to have inhabited Madagascar; mentioned in Sinbad and Ibn Batuta's voyages. It has been said to be the Si-murg'h, and has been supposed to be the same as the Garuda of the Hindus. It may have been the Dodo of the Mauritius. Madagascar has furnished from very modern strata the leg-bones and two eggs of an extinct wingless bird, named *Epyornis*, probably larger than an ostrich. The egg of this bird is 2½ feet in girth and 3 feet in its longest circumference, and its liquid contents equal more than two gallons. New Zealand had many species of the Moa or Dinornis. Professor Owen has described eighteen, and *D. elephantopus*, Owen, *D. giganteus*, Owen, and *D. didinus*, may be named, varying in size from 3 to 10 feet in height.—*India in the 15th Century*.

ROCELLA, a genus of lichens of the natural order Lichenaceæ. These are largely exported from Ceylon, Bombay, Mozambique, Angola, Lima, and Cape Verde, under the term orchella-weed.

They are used in dyeing, and are popularly called orchill or archill, terms derived from the oricello of the Italians or the Spanish orchella, often corrupted in commerce into rochilla-weed. Rocella fuciformis, the flat-leaved orchill, is found on maritime rocks, or on dry-stone walls exposed to the influence of the sea breeze, as well on the coast of Britain as on the shores of the Mediterranean and the East Indies. The more arid the situation, the better is the quality of the lichens. The presence of the colouring matter is ascertained by steeping the weed broken into small pieces in diluted solution of ammonia, in a bottle half filled with liquid, which should be kept corked, but frequently opened in a temperature not exceeding 159° Fahr. Rocella tinctoria, *D. C.*, the dyer's rocella or orchill, when good, has a mealy white powder on its surface towards the centre; the under surface is of a grey colour, and is not hairy; if wetted, it does not turn of an orange colour; its edges are flat and thin. Various lichens, from Tenasserim and other parts of India, were introduced into Britain by the East India Company. Lichens used in the manufacture of cudbear, orchill, and litmus, and of the dye substance obtained from them, were shown in the Exhibition of 1851.—*Simmonds; Hogg.*

ROCK-CRYSTAL.

Shwin-ting, Shwi, CHIN. | Koreh, HEB.
Shih-ying, | Balur, HIND.

Rock-crystal is the common name for the transparent crystals of quartz, of which it is the purest form, being composed of 99·34 per cent. of silica, with a trace of alumina. The crystal alluded to in Genesis xxxi. 40 as frost, and in Job vi. 16 as ice, and the Persian word Balur, seem to be applied indifferently to ice and rock-crystal. Rock-crystal occurs abundantly in many parts of India, and that of the south of the Peninsula is known as Vellum stone, from the place of its occurrence. Near Tanjore the mines are of great value, and the stone is cut into a great variety of ornamental objects.

The districts in British India richest in quartzose minerals are those of Dowlatabad, along the banks of the Seena river, and the neighbourhood of Rajpilla. It is found at Madagoolah.

The village of Aurangpur is situated in a small valley surrounded by hills, and the roads leading to it from all sides are, for a distance of three miles at least from the village, impassable to any but foot passengers and cattle, from their rocky and precipitous character. Its mines of rock-crystal are situated about two or three miles to the south-west of the village, and can only be approached by paths like those just described. The deposit of crystal occurs in a small valley or basin among these hills, about two or three miles to the south-west of the village of Aurangpur. The valley is about 500 yards long, and from 50 to 100 yards broad, and dips towards the north. The only part of the deposit which has been worked is the south end. If made red-hot, and plunged repeatedly into the tincture of cochineal, it assumes a ruby colour; if into a tincture of red sandal, it takes a deep red tint; into tincture of saffron or a tincture of turmeol, a yellow like the topaz; into juice of nerprum, it takes a deep violet like the amethyst; and into a mixture of tincture of turmeol and saffron, it becomes an imitation of the emerald. Steeping the crystal

in oil of turpentine saturated with verdigris or spirits of wine, holding dragon's blood or other coloured resins in solution, depth of tints are produced proportioned to the time of steeping. Crystals can be coloured if heated in a crucible with orpiment and arsenic. Crystal coloured red, as false rubies, are known in France as rubaces.—*King, p. 178.* See Precious Stones.

RODA. ARAB. Literally a garden. In Persia and Hindustan pronounced Roza, a burial ground; also an island in the Nile near Cairo. The Nilometer is at its southern extremity.

RODENTIA, the gnawing tribe of mammals.

Fam. Sciuridæ, Squirrels.

5 gen. Sciurus, 28 sp.; Mustela, 1 sp.; Rhinosciurus, 1 sp.; Pteromys, 8 sp.; Sciuropterus, 12 sp.

Sub-Fam. Arctomydinæ; Marmota, 1 gen., 2 sp.
Gen. Arctomys, 2 sp.

Fam. Muridæ, Rat tribe, 2 sub-fam., 9 gen., 45 sp.

Sub-Fam. Murinæ, Rats, Mice, 7 gen., viz. Gen. Gerbillus, 2 sp.; Nesokia, 6 sp.; Mus, 23 sp.; Leggada, 4 sp.; Platacanthomys, 1 sp.; Golunda, 2 sp.; Rhyzomys, 5 sp.

Sub-Fam. Arvicolinæ, Voles, etc., 2 gen., 2 sp.
Gen. Arvicola, 1 sp.; Neodon, 1 sp.

Fam. Hystricidæ, 1 sub-fam., 2 gen., 4 sp., viz.

Sub-Fam. Hystricina, Porcupines, 2 gen., 4 sp., viz.
2 gen. Hystrix, 3 sp.; Atherura, 1 sp.

Fam. Leporidæ, Hares, 2 gen., 10 sp., viz.

Gen. Lepus, 7 sp.; Lagomys, 3 sp.

RODUNG. HIND. In the trade lists of the N.W. frontier of India, are two kinds of madder, one called rodung kuhree, grown at Kandahar, which is superior, and the other kind, rodung phurreah. The plant is stated to require three years to come to maturity. The value of madder brought through the Baluch and Afghan mountains is stated to be £12,228. Multan is a great emporium for madder. The Kābul merchants come thither direct from Dehra Ismail Khan, viâ Leia, and exchange their madder for cotton and indigo.—*Powell's Handbook*, i. p. 463.

RODYAH, a forest race amongst the Kandyans. They are skilful in the manufacture of rope from the black fibre of the leaf-stalk of the *Caryota urens*. Physically speaking, they are much the finest race in Ceylon, but they are looked upon by the rest as out-castes, unfit to be communicated with. At one time they were liable to be put to death if they touched or approached the higher castes.—*Egerton's Tour in India*, i. p. 121.

ROE, Sir THOMAS, was sent as ambassador from James I. of England and VI. of Scotland, to the Emperor Jahangir. He sailed from Gravesend 24th January 1615, and landed at Surat with great pomp, with eighty men-at-arms in his train, and arrived at Ajmir on the 28d December, and was received at the court with unusual honour on the 10th January 1616. After a residence of two years, he obtained permission of the emperor for the English to trade at Surat. He accompanied the emperor to Mandu, and left him in the end of 1618. He praises the magnificence of the court, speaks in high terms of the courtesy and hospitality of the nobility, and he was treated by the emperor as a friend, joining the emperor's drinking parties. He says the great men, as a class, were all open to corruption. His *Journal of his Voyage to the East Indies, and Observations there during his Residence at the Moghul Court in 1615-18*, was published in Paris in 1663.—*Elphinstone*, pp. 490-92.

ROE. Fish roe, red fish, and sardines are

Malay condiments, and the species used in the preparation are *Alausa toli* (Ikan trubok), *Engraulis Brownii* (Bunga ayer or badah), *Dussunieria acuta* (Tamban-bulat), and *Clupeonia perforata* (Tamban-nepes or batub).—*Cantor*.

ROE-BALL of Europeans in Bengal is their name for species of *Polynemus*, *P. uronemus*, *Cuv.*, *P. tetractylus*, *Shaw*, and *P. teria*, *Buch*.

ROH. PUSHRU. A mountain. Rohilla, a mountaineer, a highland and highlander, a dialectal change from Koh; applied to the Suliman and Khaibar range. Brahui is said to be a term from the two words Buan and Roh. Kala Roh is a distant range of hills, literally black hill; Baga Roh, a near range, literally white hill. Roh is a district bounded on the east by Swat and Kashmir, west by the Helmand, north by Kashgar or Chitral and Kafiristan. Roh-coj of Sanskrit writers is Arachosia; it includes Ghazni and Kandahar. Roheyl, in the Heerthur Hills, is N.W. of Schwan.—*As. Res.* vi. p. 517, viii. p. 336.

ROHILKHAND, a division or commissioner-ship for administrative purposes of the N.W. Provinces of British India, comprising the districts of Bareilly, Bijnour, Badaon, Moradabad, Shah Jahanpur, and the Terai. Area, 11,805 square miles; population (1872), 5,436,314. Lat. 27° 35' to 30° 1' N., and long. 78° 1' to 80° 26' E. Rohilla Afghans had held a large tract in those provinces ever since Ahmad Shah's desolating invasion in 1761. The Rohillas were foreigners, and had cruelly lorded it over the peasantry. The Pathan race form only a small part of the population. The first settlers of the Rohilla Afghans were two brothers, Shah Alam and Husain Khan. The son of the first of these, Daoud Khan, achieved some distinction in the earlier part of the 18th century. But the rise of the family is owing mainly to his adopted son, Ali Muhammad Khan. On the cession of Rohilkhand to the British in 1801, the family were continued in their possessions. Ahmad Ali Khan died in 1839. The succession of his only daughter was rejected, and the next heir, Muhammad Sayed Khan, the eldest son of Gholam Muhammad Khan, was put in possession of the estate. For his services during the rebellion of 1857, the nawab received a grant of land yielding 1,04,400 rupees on the Moradabad and Bareilly frontier. He also received the dignity of Knight of the Star of India. In Rohilkhand, the Muhammadan landlords rose in the revolt of 1857, and not the Hindu. The *Boksa* are a forest tribe in Western Rohilkhand, and in part of the forests of the Siwalik Hills of Dehra Doon. They are of short stature and spare habits, with broad faces, depressed noses, prognathous jaws, thick lips, very scanty beard and moustaches, but not darker in colour than the ordinary Hindus of the country. They are reputed to be skilful in witchcraft. They are very ignorant and indolent, but simple, inoffensive, and good-humoured. They have a scanty, rude cultivation, and collect forest produce and wash gold, but they have no caste, and eat almost anything. They have no separate language. They are supposed to be dying out. They are said to enjoy a wonderful immunity from the effects of malaria. The *Bhihar* are an aboriginal tribe of the Upper Doab, called in the Doab, Bheimhar, and in Rohilkhand, Behar. They were expelled from Nirauli and the neighbouring districts by the Bir Gujar Rajput. The

Bhar of Northern India, called also Bharat, Rajbhar, and Bharpatwa, are an aboriginal race following the meanest of avocations, especially that of swineherds. In the hills east of Mirzapore, there are some Bhar rajas. Tradition ascribes to them the whole country from Gorakhpur to Bunderkhand, and many old stone forts. Professor Wilson supposes it possible that the name comes from Bharata, an ancient name of India.

Aharwarah is a territory which contains many districts in the north-east frontier of Malwa. The tribe or caste are the Ahar, from whom the territory derives its names of Aharwarah, and the Aharat are spread through Rohilkhand and other districts in the N.W. Provinces, following pastoral pursuits. They claim to be descended from the Yadu race of Rajputs.—*Aitcheson*; *Imp. Gaz.*

ROHILLA. PUSHRU. A term by which Afghans in N.W. India are known. From Roh, a mountain; hence Rohilla, an inhabitant of the mountain, also Rohilkhand. They were fine gallant men, and when managed by good officers, as Colonel Skinner, made excellent and orderly soldiers. The Rohilla, who conquered the extensive territory in which the city of Bareilly stands, and bestowed on it the name of Rohilkhand, were a tribe of Afghans. Their intolerance drove the greater part of the Hindu inhabitants from the tract; but successive swarms from Afghanistan supplied the place of the fugitives, and kept the country in a high state of cultivation. The restless and enterprising character of the Rohillas led to constant encroachments by them on the possessions of the Nawab Vizir of Oudh. The latter, wearied with resistance, claimed British aid as his allies; and the Governor-General, Mr. Hastings, undertook the war. The Rohillas were subdued, and their country was made over to the Nawab Vizir; a portion of it, containing the city of Rampur, with some dependent towns, being assigned to the heir of Hafiz Rahmat as a jaghir, which was to be held of Oudh on feudal conditions. Subsequently the provinces in question were ceded to the British by the Nawab Vizir, and the fealty of the nawab of Rampur was transferred to the British Government.—*Rennell's Memoir*, p. 19; *Marquis of Hastings' Journal*, ii. p. 114; *Wilson's Gloss.*; *Mr. G. Campbell*, p. 47; *Malcolm's Centr. Ind.* i. p. 325; *Tod's Rajasthan*, i. p. 672.

ROHINI. In the ancient Hindu times, there were several women of this name, one the mother of Bala Rama, one a wife of Krishna; also a constellation personified as one of the wives of Soma, the moon.

ROHITA, the son of king Harichandra, was given by Varuna, but subsequently required as a sacrificial victim by the same. A deified person mentioned in the Atharva Veda.

ROHRI, written also Rori and Lohri, a town on the left bank of the Indus, in lat. 27° 42' N., and long. 68° 56' E. It is built on an anciently occupied position, a rocky eminence of limestone, terminating abruptly on the western side by a precipice 40 feet high, rising from the bank of the river. It gives its name to a sub-district forming part of Shikarpur collectorate, lying between lat. 27° 7' and 28° 32' N., and between long. 68° 52' and 70° 15' E. Area, 4258 square miles; pop. (1872), 217,515 souls. Bounded on the north-east and east by the states

of Bahawalpur and Jaisalmer (Jeysulmir), and on the south by Khairpur. The Muhammadans are chiefly of the Kazi, Sayyid, Bhuta, Kori, Patoli, Muhana, Khati, Meimon, Shaikh, and Shikari tribes. The Sayyids of Bukkur and Rori have held lands in gift from about 1290 A.D. Grants of land were also made to them in 1712 by Jahandar Shah, on condition to pray for their imperial masters, and to guard the country from marauders.

The War-Mubarak, a building about 25 feet square, situated to the north of the town, was erected about 1545 by Mir Muhammad, the reigning Kalhora prince, for the reception of a hair from the beard of Mahomed. This hair is set in amber, which again is enclosed in a gold case studded with rubies and emeralds, the gift of Mir Ali Murad of Khairpur. The relic is exposed to view every March, when the hair by some mechanical process rises and falls, which the devotees are led to believe proceeds from supernatural agency.

Rori is sometimes distinguished as Rori Bukkur. When a locality is designated by two names mentioned together, it is either because there are two places bearing these names respectively close to each other, as Hoti Mardan, Taru Jabba, or else, where there is a river, because they are on the opposite banks of the river, as Rori-Bukkur, Thut-Naka, Daghi-Banda, etc.

Bukkur, a fortified island in the Indus river, is in the centre of the stream, nearly opposite the town of Rori, which is on the eastern bank, and on the western bank is Sukkur. Near these places is the site of Arore or Alore, a capital of Sind in remote antiquity. On its site the shepherds of the desert have established an extensive hamlet, on a ridge of silicious rock, 7 miles east of the insular Bukkur, and free from the inundations of the Indus. The Soda, a powerful branch of the Pramara race, ruled in these countries from remote antiquity, and, to a very late period, they were lords of Omra-Soomra, in which division was Arore. Sehl and his capital were known to Abul Fazl, who thus describes it: 'In ancient times there lived a raja named Sehri (Sehl), whose capital was Alore, and his dominions extended north to Kashmir, and south to the ocean.' Sehl or Sehr became a titular appellation of the country, its princes, and its inhabitants, the Schrai. Alore appears to have been the capital of the kingdom of Sigertis, conquered by Menander of Bactria. Ibn Haukul, the Arabian geographer, mentions it as Azore. D'Anville, quoting Abulfeda, says, 'grandeur d'Azour est presque comparable à Multan.'—*Imp. Gaz.*; *Masson's Journeys*, i. p. 362.

ROHTAK, a town of 14,153 inhabitants, in the Rohtak district of the Panjab, and 42 miles N.W. of Delhi. Rohtak district has an area of 1823 (or 1811) square miles, and a population over 536,959. There are 30,831 Banya traders, a large number of whom profess the Jain creed. Jats, 186,646 of the Hindu faith, and 1458 converted to Islam. They are divided into two principal clans, which entertain towards one another a singular animosity; Gujars (2909), Pathans (5521), and Baluch (2225). Scarcity pressed upon the district in 1824, 1830, 1832, and 1837, a severe famine in 1860-61, and the season of 1868-69 was one of the most disastrous on record. During the mutiny of 1857, Rohtak was

for a time completely lost to the British Government. Its Muhammadan tribes united with others in Gurgaon and Hissar, under the nawabs of Farrakhnagar, Jhajjar, and Bahadargarh, and the Bhatti chieftains of Sirsa and Hissar, and they plundered the Rohtak civil station. But before the fall of Delhi, a force of Panjab levies was brought across the Sutlej, and order was restored with little difficulty. The nawabs of Jhajjar and Bahadargarh were captured. The former was executed at Delhi; his neighbour and relative escaped with a sentence of exile to Lahore; their estates were confiscated, and portions were assigned to the rajahs of Sind, Patiala, and Nabha as rewards for their services during the mutiny.

ROHTANG, a mountain pass in the Kangra district of the Himalaya, in lat. 32° 22' 20" N., and long. 77° 17' 20" E., between Koksar in Lahoul and Palchian in Kulu. Its crest is at an elevation of 13,000 feet above the sea.—*Imp. Gaz.*

ROHTAS, the ancient Rohita, so called from its having been the chosen abode of Rohitaswa, son of king Harichandra of the Solar dynasty. It is a hill fort in the Shahabad district of Bengal, in lat. 24° 37' 30" N., and long. 83° 55' 50" E. An image of Rohitaswa was worshipped here, until destroyed by Aurangzeb.—*Imp. Gaz.*

ROHU. HIND. Labco rohita, *Ham. Buch.* The Ro-hoo and the Mirgh resemble each other in size and habits; they are very much like the salmon, but have tiny little mouths with no teeth. The ro-hoo in season has very pretty red fins, and both have ash-coloured backs, with silvery bellies; they attain to the weight of 20 lbs., and afford the angler excellent sport at bottom fishing, sometimes engaging him for an hour before he can attempt to land his fish.

ROHUN, also: Rohuna and Rohitaka. HIND. Soyimida febrifuga, *Juss.* Its bark, Rohun-ke-chilke, is not spotted with rusty patches, and the inside is dark, reddish brown; nitric acid does not stain it of a bright scarlet. These tests distinguish it from the poisonous bark of the nux vomica tree (Kuchila), which is commonly sold for it in the bazars of Bengal.—*Beng. Phar.*

ROLA. HIND. A powder made of the *Trapa bispinosa* flour, coloured with kusumba and kamila, etc. It is used by Hindus during the holi festival to throw at one another. Roli is also a compound of rice, turmeric, alum, and an acid, used to make the tilak or sectarian mark on the foreheads of Hindus; powder of the chandan or sandal-wood is also used.—*Powell.*

ROLLER, the name of Indian birds of the family Coraciidae, viz. *Coracias affinis*, *garrula*, and *indica*. They are large, showy, handsome birds, with rich blue colours.

ROLLERS, waves which occur in the South Atlantic, at St. Helena, Fernando, Noronho, and Ascension Island. All is tranquil in the distance, the sea-breeze scarcely ripples the surface, when a high swelling wave is suddenly observed rolling towards the island, to break on the outer reefs with a violence as great as if a furious tempest raged. Their cause is unknown. See Ripples.

ROLONG, the hard central part of wheat-grains, called also soojie. When rolong is crushed in a smooth, suitable vessel, such as an agate mortar, and examined with a power of about 350 diameters, it is seen to contain a very large proportion of small cells running down to one-fourth

the size of those of rice, and which appear to exist embedded in cellular tissue, which is seen broken up, and to portions of which the cells are still attached. In fine flour the cells are very considerably larger, if anything more tenticular, and much more clearly marked. See Bread; Soojie; Wheat.

ROMA-KA-SIDHANTA, an astronomical treatise by an ancient Hindu, supposed to be from the Greeks of Alexandria.—*Elph.* p. 131.

ROMAN, a name applied to the rulers and people of ancient Rome, who succeeded the Greeks in their Asiatic territories. The Romans conquered most parts of Europe, the northern part of Africa, Syria, and Palestine, and left lasting improvements in the roads and education of the countries which they occupied. The official language was Latin, and the modern Romance languages, viz. Italian, Wallachian, Provençal, French, Spanish, and Portuguese, are closely related to each other, all derived from Latin. According to the author of the *Periplus of the Red Sea*, Aden had been destroyed by the Romans shortly before his time; and Dean Vincent is of opinion that the Caesar in whose reign this event took place was the emperor Claudius. The object of destroying so flourishing a port is not difficult to determine. From the time that the Romans first visited Arabia under *Ælius Gallus*, they had always maintained a footing on the shores of the Red Sea, and it is probable that Claudius, being desirous of appropriating the Indian trade to the Romans, sought a pretext of quarrel with Aden, in order that he might by its destruction divert the Indian trade to the ports of Egypt. Valerian, a Roman emperor, having been conquered by Shahpur in a fort near Antioch, was led into Susiana, where the Persian monarch, undertaking some extensive structures (at Shushter), obliged his captive to assist in the work, by procuring experienced artists from Rome or Greece, and he promised that liberty should be the reward of the co-operation. The task was performed, and Shahpur observed his promise, but first cut off the Roman emperor's nose, to brand him with an indelible mark of captivity.

Among the Hindus of India are many social customs similar to those of the ancient Romans. Among the religious rites of the ancient Romans, their lustral ceremonies and their worship of Priapus were the same with those of the modern Hindus. The village community of India, also, is at once an organized patriarchal society and an assemblage of co-proprietors. The personal relations to each other of the men who compose it are indistinguishably confounded with their proprietary rights, and to the attempts of British functionaries to separate the two may be assigned some of the most formidable miscarriages of British Indian administration. So soon as a son of a Hindu is born, he acquires a vested interest in his father's substance; and the domain thus held in common is sometimes administered by an elected manager, but more generally by the eldest representative of the eldest line of the stock. The village community, however, is more than a body of co-proprietors; it is an organized society, having its staff of officers for internal government. This seems the type of the *Gens* or House of the ancient Romans; and although both in India and at Rome each community was assumed

to have sprung from two common ancestors, the fact was that these houses and villages were recruited by new members, who were admitted by adoption, or by some analogous process. The researches of Haxthausen and Tengoborski have lately proved that the Russian villages are organized communities of a similar character. And the same principle seems to prevail in Servia, in Croatia, and the Austrian Slavonia—in fact, wherever feudality has had small influence, and wherever there is the nearest affinity between the western and the eastern world. The colonists of New Zealand have been long engaged in disputes with the natives, which turned upon the precise point under discussion. While the Colonial Government insisted that any member of a tribe is entitled to sell his land to whomsoever he pleases, the natives insist that although one member may transfer it to any other member of the same tribe, he cannot transfer it to any person who is not a member without the consent of the whole tribe, because of the existence of what has been called a tribal right. Thus showing that in the mind of a New Zealander the idea of joint ownership precedes that of separate ownership. By the Roman law, the father was certainly regarded rather as a steward than a proprietor of his goods, and accordingly was not, at first, permitted to dispose of his property as he pleased after his death, and on many of these points the Roman law and the Hindu law assimilate. The Romans generally burned, but they sometimes buried their dead, as Hindus now do; children who died in infancy were interred in the immediate neighbourhood of their former homes. Their sepulchral urns with the ashes of the dead were commonly buried about two feet below the surface, and their memorial stones were often inscribed. They used the sarcophagus or massive stone coffin, and also the tumulus or barrow. The Romans bore their dead with much lamentation to the funeral pile, on which, after being lighted, they cast the robes and arms of the deceased, as well as the slaughtered bodies of his favourite animals. The Romans had peculiar modes of divination,—their *dies fasti*, *nefasti*, their auguries, etc. Amongst the Hindus are the village gods, of which each village adores two or three, as its special guardians, but sometimes as its dreaded persecutors and tormentors. They bear some resemblance to the *penates* or *lares* of the Romans; and, like them, they are sometimes the recognised god of the whole nation, either in their generally received characters, or in local incarnations, but much oftener they are the spirits of deceased persons, who have attracted the notice of the neighbourhood.

The writing character of the ancient Romans is now used by most of the people of Europe, and by the British and their colonies. It is one of great value, and should be everywhere introduced. With much in common, in several of the Indian tongues it at first seems an easy matter to become acquainted with them. But at the first step there is this difficulty, that every language has its separate alphabet, and every province has six or eight alphabets in use. The various nationalities cannot use each other's books, nor write to each other. Even were it possible, out of the fourteen current alphabets of India, to select one for universal use, there is not one of them which it is not extremely difficult to read, difficult to write,

and difficult to print. The natives themselves cannot read them fluently. Even pandits and moonahis are continually obliged to pause for the purpose of spelling the words. A fluent reader of any of the native characters is almost unheard of; but a mere boy who is taught the Roman characters, will, in the course of a few months, read without stopping anything that is given to him. As a general rule, it is impossible to write fast in any of the native alphabets without making so many blunders and omissions that the manuscript becomes an unintelligible scrawl. The greatest difficulty of all, however, occurs in printing. For one language a fount of type is required consisting of not less than 700 letters, simple and compound; another requires 900 letters; a third, 1000, and so on; the cost of preparing such a fount, and the difficulty which a compositor has to contend with in having a 'case' before him with this prodigious collection of characters, are great. With one character in common use, it would be comparatively easy to frame two dictionaries,—one with words common to the Aryan family, the other with Dravidian words; but the many written characters has rendered that impossible, and before the end of the 19th century, if no unexpected change occur, the English language will have become the chief medium of intercourse between the various races in British India.—*Muller's Lectures*, p. 163; *Ouseley's Travels*, i. p. 287; *Ed. Jour.*, July 1867; *Elphinstone's India*, p. 179; *Kennedy on the Origin of Languages*, p. 16.

ROMAN CATHOLIC, a sect of Christians who recognise the Pope of Rome as their spiritual, and many of the sect regard him also as their temporal, chief. They form in India the largest body of the native Christians. Their total number in British India in 1881 was 963,058. The priests of the Portuguese Roman Catholics and of the Society of Jesuits are spread from Goa over all the Peninsula of India. The Italians occupy Hyderabad and Native Burma; the French occupy Mysore, and they have missions in Siam, Cambodia, China, and Japan. The greatest of all their missionaries was Saint Francis Xavier, who laboured in India, the Malay Peninsula, and Japan. Beschi, a great writer, laboured in the south of the Peninsula and Mysore; and in 1871 there were upwards of half a million Roman Catholics in the Tamil country, and only about 24,000 in the vicariates of Eastern and Western Bengal. In 1881, of the total number, there were, in Bombay districts, 115,516; in Cochin, 120,919; in Travancore, 153,815; and in Madras, 473,352; leaving only 99,457 for all Northern India. The dates of Romish doctrines are—

Invocation of Saints,	700	Purgatory,	1438
Image Worship,	787	Seven Sacraments,	1547
Infallibility,	1076	Apocryphal Books,	1547
Transubstantiation,	1215	Priestly Intention,	1547
Supremacy,	1215	Venial Sins,	1563
Half Communion,	1415	Sacrifice of the Mass,	1563

Indulgences introduced in the 15th century, but not sanctioned by a council till 1563.—*Churchman's Magazine* for Jan. 1846.

ROME, a city of Italy, formerly renowned, and styled the 'Mistress of the World.' It is situate in the Campagna di Roma, and is the residence of the Pope. It is built on seven hills and the intermediate valleys along the banks of the Tiber, over which

it has bridges; there are squares, fountains, or obelisks in their area. The church of St. Peter, which was finished in 1621, is entirely covered, both within and without, with marble. The length is 730 feet, the breadth 520, and the height, from the pavement to the top of the cross that crowns the cupola, 450. The Pantheon, erected above 120 years before the Christian era, to the honour of all the gods, is the most perfect of the Roman temples that now remain; but the Colosseum is the most stupendous monument of antiquity. The Pope has three superb palaces, of which the principal is the Vatican, near St. Peter's Church; the library of this palace is deemed the largest and richest in the world. Besides the university, which consists of several colleges, there are numerous academies, literary societies, etc.

RONDELETIA TINCTORIA. *Roxb.*

Ta-ma-yok, . . . BURM. | Toora lodh, . . . HIND.
A small tree of the Kotah and Mowar jungles; wood dark-brown. The bark is used in dyeing red.—*McClelland; Irvine.*

RONGDO, meaning the district of defiles, is an elevated district on the bend of the Indus, and on the frontier of the Gilgit and Hasora countries. It is to the westward of Balti, and has an area of 1440 square miles. It is about 8000 feet above the sea, the mean of its villages being 6200 feet. The people are of Tibetan habits.

The Rongdo villages are mostly small; they have abundance of fruit-trees, of which the apricot is the commonest. All over the Rongdo Hills the juniper is rather common, and seemingly quite at home both on the higher ridges and in the bottom of the ravine close to the river. Pinus excelsa grows there. The fields are largely manured.—*Thomson's Tr.* p. 256.

RONG-GENG. BURM. Burmese dancing girls.

RONGUEDUE, Ronkedor, or Runkedor. SINGH. A rogue or solitary elephant.

ROOSA OIL, Grass Oil, or Ginger Oil is obtained from the Andropogon calamus aromaticus, *Royle* (A. Martini, *Roxb.*), a native of the low hills at the base of the Himalaya; also found at Asirgarh, in Malwa, Gujerat, and the Dekhan. Twenty seers of the grass are mixed with two seers of sesamum oil, and then slowly distilled. The oil thus becomes highly impregnated with the peculiar roosa flavour, and is sold as such at Rs. 4 a seer. Grass oil is never taken internally by natives, but they have a great faith in it as a stimulant to the functions of the several organs, when rubbed on externally. They also use it as a liniment in chronic rheumatism and neuralgic pains, but its expense prevents its being used generally. It has a fragrant, aromatic smell, persistent, and very agreeable at first, but after a time the odour becomes unpleasant, and gives many people a feeling of sickness with headache. They use it for slight colds; also to excite perspiration, by rubbing in a couple of drachms on the chest before the fire or in the heat of the sun. The pure oil has been used by many European officers with wonderful effect in cases of severe rheumatism, but two good rubbings produced such severe burning as to render a third application impracticable. The oil is chiefly imported into Bombay from Surat, and is re-exported in considerable quantities to England, China, and the

Arabian and Persian Gulfs. This oil differs but little either in appearance or quality from the lemon grass oil; it is a good substitute for the more expensive cajaputi oil.—*Faulkner; M.E.J.R.*

ROPE.

Habl, Khoit, . . .	ARAB.	Rasan, . . .	PERS.
Corde, . . .	FR.	Cuerda, Soga, . . .	SP.
Seil, . . .	GER.	Cordel Sarta, . . .	"
Doodah, . . .	GUJ.	Kaur, . . .	TAM.
Rassi, . . .	HIND.	Daram, . . .	TEL.
Corda, . . .	IT.	Khalat, . . .	TURK.
Talikalat, . . .	MALAY.		

Ropes are made of fibrous materials, spun into thick yarn, of which several strands are twisted together, usually by means of a wheel. In commerce all the different kinds of rope, from a fishing-line or whipcord to a cable, go by the general name of cordage. Among the cordage sent to the Great Exhibition of 1851 were ropes of excellent quality made of Jubbulpur hemp, at least equal, if not superior, in strength to that of Russian hemp. When a Petersburg hemp broke with 160 lbs., one of Jubbulpur hemp did not break with less than 190 lbs.

In India the mode of making ropes is singularly simple. One man sits on the ground and lets out the yarn; another retires half-bent, and spins it by means of a spindle, the yarn being passed through a wooden hoop hung round his neck. He gives the spindle a jerk betwixt the palms of his hands, and keeps its motion up at a very considerable degree of speed indeed. When several plies of fine yarn are to be twisted together, a man with a spindle is placed at the end of each. The whole series are supported at intervals by frames of bamboo; a spinner at the further extremity twists all the strands into one, while a light piece of board is being passed along, where the cords are meant to be hard plaited and strong, to keep them from running too rapidly together. In the case of ropes, after the single strands are laid together, the rope is made up by men twisting the larger strands by a stout piece of wood,—a much stronger and longer piece being used for the entire rope, a man sitting by a board with holes through which the several strands pass, to see that all go properly together.

Mandel straw rope is made from Eleusine coracaria. The straw is flat and excessively tough, so much so that in gathering the crops the heads are pulled off by hand, leaving the whole straw standing.

Manilla rope is made of plantain fibre, and used for running rigging for ships, or tackling for land purposes.

Hemp rope from the *Cannabis sativa* is used for standing rigging for ships, or for use in water.

Rope of *Sesbania aculeata* is used as running rigging for ships, and tackling for land purposes.

Coir rope from the coconut fibre is used for boats' and ships' running gear, and for lawns and cables, also for all tackling purposes when exposed to wet, especially salt water.

Ropes made of *Crotalaria juncea* are employed as tackling in dry places without exposure to wet.

Ropes are made at Lahore of a fibrous plant called Chuyan, from Sunn Okra, from the Dib and the Putta, from a fibre called Bugar, from palm leaves, Dah grass, and plantain leaves.

Rope of *Saccharum moonja* is made near the Gauges, Jumna, and Indus. Twine is made from the fibre of the leaf-sheath; a little thicker kind

is used for towing boats; when dry it does not possess much strength, when wet it is strong and durable. The moonja is used also for thatching, etc.

A rope is made at Balasore of Sealee fibre.

Rope of rattan made at Penang, Malay Peninsula, used for drawing water, and as halters for cattle.

Cotton rope is used for hanging and pulling punkahs and tent ropes.

The principal cordage plants of British India are enumerated under the heading Fibrous Plants, *q.v.*, to which the following may be added, viz. :—

<i>Eschynomene cannabina.</i>	<i>Saccharum spontaneum.</i>
<i>Ailanthus Malabaricus.</i>	<i>Smilax ovalifolia.</i>
<i>Aloe vulgaris.</i>	<i>Sterculia foetida.</i>
<i>Arenga saccharifera.</i>	<i>S. ramosa.</i>
<i>Arundo donax.</i>	<i>Strychnos potatorum.</i>
<i>Bignonia coronaria.</i>	<i>Urtica heterophylla.</i>
<i>Boehmeria argentea.</i>	<i>U. atrofusca.</i>
<i>B. dichotoma</i> and other <i>sp.</i>	<i>U. crenulata.</i>
<i>Broussonetia papyrifera.</i>	<i>U. dolabriformis.</i>
<i>Calamus rotang.</i>	<i>U. heptandra.</i>
<i>Celtis caucasicus.</i>	<i>U. filiformis.</i>
<i>C. capsularis.</i>	<i>U. funicularis.</i>
<i>Cordia myxa.</i>	<i>U. longispina.</i>
<i>C. angustifolia.</i>	<i>U. nivea.</i>
<i>C. Rothii.</i>	<i>U. paniculata.</i>
<i>Crotalaria tenuifolia.</i>	<i>U. pentandra.</i>
<i>Eleusine coracana.</i>	<i>U. reticulata.</i>
<i>Leptadenia, sp.</i>	<i>U. tenacissima.</i>
<i>Morus Indica.</i>	<i>U. virulenta.</i>
<i>Nussienaya hypoleuca.</i>	

ROR. HIND. Kunkur, or broken brick, used in Bengal for travelling roads.

RORI BAROLLI has a grand temple 58 feet in height, and in the ancient form peculiar to the temples of Siva. The body of the edifice, in which is the sanctum of the god, and over which rises its pyramidal sikr, is a square of only 21 feet; but the addition of the domed vestibule (munduf) and portico makes it 44 by 21. The whole is covered with mythological sculpture, without as well as within, emblematic of Siva as Mahadeo, who in Saiva Hindu belief is the giver as well as the destroyer of life. In a niche outside, to the south, he is armed against the Dytes (Titans), the round mala or skull-chaplet reaching to his knees, and in seven of his arms are offensive weapons. His cap is the frustum of a cone composed of snakes interlaced with a fillet of skulls; the cupra is in hand, and the victims are scattered around. On his right is one of the Jogini maids of slaughter, drunk with blood, the cup still at her lip, and her countenance expressive of vacuity; while below, on the left, is a female personification of death, mere skin and bone; a sickle (kooopi) in her right hand, its knob a death's head, completes this group of the attributes of destruction.

To the west is Mahadeo under another form,—a beautiful and animated statue, the expression mild, as when he went forth to entice the mountain-nymph Mera to his embrace. His tiara is a blaze of finely-executed ornaments, and his snake-wreath, which hangs round him as a garland, has a clasp of two heads of Sehesnag (the serpent-king), while Nanda below is listening with placidity to the sound of the damroo. His cupra and kharg, or skull-cap and sword, which he is in the attitude of using, are the only accompaniments denoting the god of blood. The northern compartment is a picture disgustingly faithful of death and its attributes, vulgarly known as Bhooka Mata, or the personification of

famine, loud and bare; her necklace, like that of her lord, is of skulls. Close by are two mortals in the last stage of existence, so correctly represented as to excite an unpleasant surprise. The outline is anatomically correct. The mouth is half open and distorted, and although the eye is closed in death, an expression of mental anguish seems still to linger upon the features. A beast of prey is approaching the dead body, while by way of contrast a male figure, in all the vigour of youth and health, lies prostrate at her feet.

Such is a faint description of the sculptured niches on each of the external faces of the mindra, whence the spire rises, simple and solid. In a Hindu temple is the mindra or cella, in which is the statue of the god; then the munduf, in architectural nomenclature, is the pronaos; and third, the portico. Like all temples dedicated to Bal-Siva, the vivifier, or sun-god, it faces the east. The portico projects several feet beyond the munduf, and has four superb columns in front. The ceilings, both of the portico and munduf, are elaborately beautiful; that of the portico, of one single block, could hardly be surpassed. The exterior is a grand, wonderful effort of the silpi or architect, one series rising above and surpassing the other, from the base to the urn which surmounts the pinnacle. The sanctum contains the symbol of the god, whose local appellation is Rori Barolli, a change from Balrori, from the circumstance of Balnath, the sun-god, being here typified by an orbicular stone turned rori, formed by attrition in the chooli or whirlpools of the Chambal, near which the temple stands, and to which phenomena it probably owed its foundation. This symbolic rori is not fixed, but lies in a groove in the internal ring of the Yoni; and so nicely is it poised, that with a very moderate impulse it will continue revolving while the votary recites a tolerably long hymn to the object of his adoration. The old ascetic, who had long been one of the zealots of Barolli, amongst his other wonders, gravely told Colonel Tod that with the momentum given by his little finger, in former days, he could make it keep on its course much longer than now with the application of all his strength.—*Tod's Rajasthan*, ii. p. 706.

ROSARIES.

Taabih, Maabaha, . . .	ARAB.	Rosenkrans, . . .	GER.
Rosaire,	FR.	Rosario,	It.
Rosenboet,	GER.	Rosario,	Sp.

Rosaries are used by Buddhists, Christians, Muhammadans, and Hindus. The Muhammadans, as each bead passes through their hands, recite one of the hundred attributes of the Creator. Their rosary has 100 beads; that of the Burmese Buddhists, 108. The thousand names of Vishnu and Siva are strung together in verse, and are repeated on certain occasions by Brahmans, as a litany accompanied sometimes with the rosary. As each name is mentally recited, with the attention abstractedly fixed on the attribute or character of which that name excites the idea, a bead is dropped through the finger and thumb; such operation is supposed to assist or promote abstraction, an attainment which enthusiastic Hindus think exceedingly efficacious. Brahmans and pious men of other castes are often seen with rosaries in their hands. These are composed of amber or of the rough seeds of fruits which are

sacred to the gods. Images and pictures of Brahma and of Siva are frequently to be seen with a rosary in the hand, and the hand is sometimes seen enclosed in a loose bag. There is no authority for supposing that the Jews or the earlier Christians used rosaries. The Christian rosaries are of beads and seeds. The seeds of the *Abrus precatorius* and of the olive, and beads of wood made by the turner, are used. Muhammadans use beads made of quartzose minerals. Rosaries and charms are made at Kandahar from chrysolite, a silicate of magnesia quarried from a hill at Shahmaksud. It is generally opaque, and varies from a light-yellow to bluish-white.—*Bellew; Moor's Pantheon*, p. 24.

ROSCOEIA, a genus of showy plants belonging to the Zingiberaceæ; species occur up to 9000 feet in the Himalaya and on the Neilgherry mountains, viz.:—

R. alpina, <i>Royle</i> , Simla, Ohor, Landour, Neilgherries.
R. capitata, <i>Sm.</i> , Wall., Nepal.
R. elatior, <i>Sm.</i> , Nepal, Kamaon.
R. lutea, <i>Wight</i> & <i>Sc.</i> , Neilgherries.
R. exilis, <i>Sm.</i> , Nepal.
R. purpurea, B. procera, Wall., Shivapur mountain.
R. apicata, <i>Sm.</i> , W. <i>Sc.</i> , Voigt, Nepal.

ROSE.

Ward,	ARAB.	Rosa,	DUT.
Ying-shih,	CHIN.	Rodon,	GR.
Tsiang-wei, Tsiang-mi,		Mawar,	MALAY.
Muh-liang,		Gul,	PERKS.
Mui-kwai-hwa,		Rozn,	RUS.
Fu-kien-sian,		Gulaba-pu,	TAM.
Mei-kwe-hwa,		Roja-pu,	TEL.
Hoa-houng-tau, Coch. CH.			

The Rosaceæ, or rose tribe of plants of Lindley, comprise the genera *Agromonia*, *Dalibarda*, *Fragaria*, *Geum*, *Hotelia*, *Neillia*, *Potentilla*, *Rosa*, *Rubus*, *Schizonotus*, *Sibbaldia*, *Sieversia*, and *Spiræa*. Rose trees grow in India, both wild and cultivated, and the flower is much prized. Wild yellow roses are found in Kashmir, Lahoul, and Tibet. Lowther states they are sometimes double, and Thomson mentions double yellow roses at 11,000 feet in Ladakh. The yellow Persian rose finds its eastern limit in Lahoul, but Fortune saw a China yellow rose in the gardens of the mandarins during the early months of the year. The colour had something of buff in it, which gave the flowers an uncommon appearance. It was a most beautiful double yellow climbing rose from the more northern districts of the empire. Another rose, which the Chinese call the 'five-coloured,' was also found in one of these gardens at this time. Sometimes it produces self-coloured blooms, being either red or French-white, and frequently having flowers of both on one plant at the same time, while at other times the flowers are striped with the two colours. The rose was known in early times, and was as great a favourite among the nations of antiquity as it is in modern times. It is found in almost every country of the northern hemisphere, both in the Old and New World. All the species are included between lat. 70° and 19° N. It is found more generally on dry and free soils than on those which are wet and tenacious. In the north of Europe it occurs with single flowers, but in Italy, Greece, and Spain more frequently double. The flowers of the rose have a great variety of colours, from the deep-red to pale-yellow and white, with every intermediate shade. In India, the easiest mode of propagation is by layers at almost all seasons, or by cuttings at the

ROSE.

commencement of the rains. The Persian varieties, red and white, require to have their roots opened and the plants cut during the early part of the cold season, after which they must be watered well every second or third day. The roots must then be covered up with manure, when they will throw out flowers. The Rose Edward, which blossoms a great part of the year, requires pruning about a month after it ceases to blossom, and should be allowed to rest a short time without watering, when a fresh supply of water and manure round the roots will cause it to bear flowering shoots immediately. This rose, and the Egyptian, are amongst the few that give seedlings, being perfectly formed on both. Some of the roses in China are peculiar from having transparent dots on their leaves, resembling those of the myrtles, and with the Chinese the roots and fruits of rose trees are official.

Rosa brunonis, Lind.

Kujo, Kuj, Gangari, BHAS.	Gulab-ghuri,	PUSHTU.
Karar,	Kajer, Kui, Kajri, SUTLEJ.	
Phuliari, Chal,	Gulab-ghurei, TR.	INDUS.
Phulwari, Krur, KANGRA.		

This fine wild white rose climbs luxuriantly over bushes and even tall trees. It is common in the outer Himalaya from 2400 to 7000 feet, up to and probably beyond the Indus. It furnishes a small-sized wood, which makes walking-sticks. In Murree they call it 'chal;' but this they also apply to the jasmine.

Rosa canina, the dog rose, Kin-ying-tze, CHIN., is common in Kiang-si and other provinces of China; fruits large and astringent, formerly used in medicine.

Rosa centifolia, Linn.

<i>R. provincialis</i> , Miller.	<i>R. centifolia muscosa</i> .
Wurd,	ARAB. Hundred-leaved rose, ENG.
Kanta gulab,	BENG. Gul-i-surkh,
Gulab-ka-phul,	DUKH. Mawar,
Cabbage rose,	ENG. Gul-i-sad-barg,
	PERA.

This, a native of Syria, is cultivated throughout Europe, British India, Persia, and China, and from it rose-water and attar or otto of roses are prepared. The stem or kubjak is used by the Hindu physicians in medicine. Its fragrance is but partially destroyed by desiccation, and according to M. Chereau is remarkably augmented by iodine. It is less astringent than the Provence rose, and more laxative. The petals are used as laxatives for children, and also made into the conserve of roses or gul-khand. The petals of this as well as of the *R. gallica* are preserved with salt by the European apothecaries for the preparation of the distilled water.

Rosa damascena, Mill., the damask rose, is cultivated in gardens in India for the sake of its flowers; it is supposed to have been originally brought from Damascus, and to be a native of Syria. It has many varieties. The essential oil of the petals sells at 2 rupees per tola.

Rosa eglanteria, L. Native country unknown.

Rosa gallica, the French rose, Provence red rose, is supposed to be the species to which Pliny refers (Hist. Nat. xxi. pp. 18, 25, 72, 73). Is a native of Persia, found wild about Mount Albanum, Walzenberg, and Geneva, in Austria, Piedmont, and the Caucasus; it has equal small prickles, erect flowers, ovate sepals, and globose fruit. Hundreds of varieties of this rose are found cultivated in gardens. A great number of varieties of them are hybrids between *R. gallica* and *R. centifolia*.

ROSE, HUGH, LORD STRATHNAIRN.

They mostly combine the long graceful shoots of the latter with the rich crimson hues of *R. gallica*. Hybrids are also produced between *R. gallica* and *R. indica*, but differ from the last in not being perpetual. The petals contain tannic and gallic acid, essential oil, oxide of iron, and other unimportant principles. The petals are gathered before becoming quite ripe; they are deprived of the calyx and central attachments, and dried before the sun or in a stove. When dried they are sifted in order to separate the stamina and pistil. They are then gently compressed and kept in a dry place. From the cabbage rose, a variety of this species, a very fragrant distilled water is prepared in England.

Rosa glandulifera is the Gul seoti or Sewati of the Panjab.

Rosa inserta is the Nasrin kubjak.

Rosa macrophylla.

Gulab jikjik,	CHEN.	Ban-kujru, Yal,	SUTLEJ.
Phulwar, Phulian, HIND.		Trind, Tumbu,	"
Ban-gulab, Akhiari, RAVI.			

This great red rose tree grows over a wide range in the N.W. Himalaya up to the Indus from 4500 to 10,500 feet. Its fruit is eaten, and is stated by Madden to become very sweet when black and rotten. In Kanawar, a perfume is extracted from the flowers for export towards the plains. It is one of the most beautiful Himalayan plants. Its single flowers are as large as the palm of the hand.

Rosa moschata, the musk rose, is found native in the north of Africa, and in the temperate and warm provinces of Spain.

Rosa rubiginosa, sweet-briar or gul-nasrin, is met with in many Indian gardens; it sometimes blossoms, if budded on the Persian rose stock. The general mode of propagation is by layers, but a much quicker and easier method is to bud it on the stock of a rose. Tenasserim residences are often filled with sweet odours from the graceful eglantine or sweet-briar, but the plant is kept alive with difficulty when exposed to the south-west monsoon.

Rosa semperflorens, the Yuch-ki-hwa of the Chinese, is the Chinese monthly rose, a common scrambling shrub bearing a regular profusion of red flowers, mostly barren, but used medicinally.

Rosa sericea is an erect, white-flowered rose, and is the only species occurring in Southern Sikkim. It is very abundant. Its numerous inodorous flowers are pendent, apparently as a protection from the rain, and it is remarkable as being the only species having four petals, instead of five.

Rosa Webbiana, Wall.

Sikanda, Manyar,	CHEN.	Sia, Sea,	LADAKH.
Shawali, Chuan,		Kingal, Kugina, SUTLEJ.	
Kantyan,	KASHAN.		

This rose is found chiefly in the rather arid tracts of the Panjab Himalaya from 5000 to 9500 feet, up to near the Indus, and in Ladakh it reaches 13,500 feet. Its fruit is eaten, and in parts of Spiti the stems are largely used for fuel.—*Cleg-horn*; *Fortune's Wanderings*, p. 311; *Hooker, Journ.* i. p. 168, ii. p. 43; *Mason*; *O'Sh.*; *Powell*; *Riddell*; *Smith*; *Stewart*; *Roeb.* ii. p. 513.

ROSE, HUGH, LORD STRATHNAIRN, a distinguished politician, commander, and administrator. In Europe public attention was directed to the affairs of Syria, where Lord Palmerston, at the

hazard of a war with France, effectually checkmated Thiers, drove Ibrahim Pasha back into Egypt, and restored Syria to Ottoman rule. The part taken by Sir Hugh Rose in that brilliant line of policy was prominent, and as a reward for his services he received from Great Britain the Companionship of the Bath, from Prussia the Cross of St. John of Jerusalem, and from the Sultan a sword of honour. After passing many years in the diplomatic service, he acted as British ambassador at Constantinople, in the absence of Stratford Canning, and at a critical moment he ordered the British fleet to the mouth of the Dardanelles, for which he received the thanks and support of the British Government. Subsequently, and throughout the whole of the Crimean war, Sir Hugh Rose served as Commissioner with the French army, and gained the respect of the British authorities, and also of the principal officers in the French army. For his services in the war with Russia, he was created K.C.B., and received the Crimean medal and clasps, the rank of Commander of the Legion of Honour, the third class of the Medjidi, and the Turkish medal.

When he landed at Bombay in the autumn of 1857, Lord Elphinstone at once gave him the command of the force to which was confided the duty of crushing rebellion in Central India, and of marching to join Sir Colin Campbell's army in Bengal. He took command of the field force in December 1857, captured Ratguri 29th January 1858, Garrakota 13th February, and Chandaree 17th March; defeated Tantia Topee at the Betwa, 1st April; stormed Jhansi, 3d April; defeated the mutineers at Golowlic, 22d April; captured Calpee, 23d April; defeated the Gwalior contingent, 16th June; restored the Maharaja Sindia, 20th June 1858; and became Commander-in-Chief of India, 4th June 1860.

This small column, few in numbers, was constantly engaged with vastly superior forces of the enemy, and marched for months from victory to victory, suffering fearfully from over-exertion, terrific heat, and constant combats, until finally it joined Sir Colin Campbell's troops upon the banks of the Jumna at Calpee.

Leaving Indore at the end of 1857, Sir Hugh Rose first encountered the enemy at Ratguri, which fort he captured in a few days, and again defeated the raja of Banpore on the Bina. This opened to him the road to Saugor, the garrisons of which had long been hemmed in by the enemy, and which he relieved in February 1858. Still advancing, Sir Hugh Rose's column again met the rebels at the fort of Gangukota, which he took, and he then closely pursued the enemy with loss to the Beas. His next operation was in storming the pass of Mudunpore, and by his success there, several smaller forts fell into his possession, the road to Jhansi was opened, and the territory of Shahguri annexed. Sir Hugh Rose then marched on Jhansi, and on his way took the strong fort of Chandaree by storm. Arriving before Jhansi on the 21st of March, he found himself in the presence of a fortified city defended by a large army of rebels. His siege guns were few, and his troops were constantly engaged and much overworked. During seventeen days the cavalry and artillery invested the fort and guarded the ground round it, and never took off their clothes, saddles, or harness. In the meantime, whilst the siege pro-

gressed and the artillery were endeavouring to make a breach, Tantia Topee, with an army of 20,000 men and 20 guns, appeared on the Betwa. Still maintaining his investment of the city, and withdrawing as few troops as possible, Sir Hugh Rose drew up his small force in two lines in order of battle, and by a masterly flank attack utterly defeated and routed the rebel army in the field, capturing all their artillery, and pursuing them for sixteen miles. In two days after the battle of the Betwa, he assaulted and captured Jhansi by storm and escalade, with a loss to the enemy of 5000 men. In April, giving the rebels no rest, Sir Hugh again advanced towards Calpee, which was their great depot and arsenal on the Jumna. On his way there he again met the rebels at Koonch at daylight, defeated and pursued them throughout the day, capturing fifteen guns. The force, however, was becoming perfectly prostrate from constant marching, fighting, over-exertion, and heat. The thermometer stood at 120° in the shade. Many men dropped down dead from sunstroke. Although to avoid the excessive heat, the marches were made at night, the men were so utterly exhausted that even during short halts the whole force would fall down into a deep sleep, from which they were aroused with difficulty. In this jaded condition the column arrived, in May, at the banks of the Jumna near Calpee, when the enemy attacked them at noon on the 23d, but after a severe encounter were repulsed, a portion of the Rifle Brigade Camel Corps from the other side of the Jumna having come to the assistance of Sir Hugh Rose at a critical moment. The success of this day made Sir Hugh Rose master of Calpee, with its arsenal and material of war. Soon afterwards it was announced that Sindia had fled from his capital, and that Gwalior was in the hands of the rebel army. Rapidly retracing his steps, Sir Hugh Rose again met the enemy in a battle under the walls of that great fortress, and by his victory on that occasion restored the maharaja to his throne.

ROSE-ATTAR, the *Atr* of Asiatics and *Otto* of the English. In India, the perfumed oils or attar are obtained in the following manner. The layers of the jasmine or other flowers, four inches thick and two inches square, are laid on the ground and covered with a layer of sesamum or any other oil-yielding seed. These are laid about the same thickness as the flowers, over which a second layer of flowers like the first is placed. The seed is wetted with water, and the whole mass covered with a sheet held down at the ends and sides by weights, and allowed to remain for 18 hours in this form. It is now fit for the mill, unless the perfume is desired to be very strong, when the faded flowers are removed and fresh ones put in their place. The seed thus impregnated is ground in the usual way in the mill, the oil expressed having the scent of the flower. At Ghazipur the jasmine and bela are chiefly employed; the oil is kept in bottles of hide, called dubbars, and sold for about four shillings a seer. The newest oils afford the finest perfume. In Europe a fixed oil, usually that of the bean or morunga nut, is employed. Cotton is soaked in this, and laid over layers of flowers, the oil being squeezed out so soon as impregnated with perfume. Dr. Jackson thus describes the culture of the rose in India, and manufacture of rose-attar or rose-water. Around the station of Ghazipur, there are about 300 bighas

(or about 150 acres) of ground laid out in small detached fields as rose gardens, most carefully protected on all sides by high mud walls and prickly-pear fences, to keep out the cattle. These lands, which belong to zamindars, are planted with rose trees, and are annually let out at so much per bigha for the ground, and so much additional for the rose plants,—generally 5 rupees per bigha, and 25 rupees for the rose trees, of which there are 1000 in each bigha. The additional expense for cultivation would be about 8 rupees 8 annas; so that for 38 rupees 8 annas you have for the season 1 bigha of 1000 rose trees. If the season be good, this bigha of 1000 rose trees should yield 1 lakh of roses. Purchases for roses are always made at so much per lakh. The price, of course, varies according to the year, and will average from 40 to 70 rupees. The rose trees come into flower at the beginning of March, and continue so through April. Early in the morning the flowers are plucked by numbers of men, women, and children, and are conveyed in large bags to the several contracting parties for distillation into rose-water. The cultivators themselves very rarely manufacture. The native apparatus for distilling the rose-water consists of a large copper or iron boiler well tinned, capable of holding from 8 to 12 gallons, having a large body with a rather narrow neck, and a mouth about 8 inches in diameter; on the top of this is fixed an old pot or degghi, or cooking vessel, with a hole in the centre to receive the tube or worm. This tube is composed of two pieces of bamboo, fastened at an acute angle, and it is covered the whole length with a strong binding of corded string, over which is a luting of earth to prevent the vapour from escaping. The small end, about two feet long, is fixed into the hole in the centre of the head, where it is well luted with flowers and water. The lower arm or end of the tube is carried down into a long-necked vessel or receiver, called a blubka. This is placed in a pot of water, which, as it gets hot, is changed. The head of the still is luted on to the body, and the long arm of the tube in the blubka is also well provided with a cushion of cloth, so as to keep in all vapour. The boiler is let into an earthen furnace, and the whole is ready for operation. There is a great variety of rose-water manufactured in the bazar, and much that bears the name is nothing more than a mixture of sandal oil. The best rose-water, however, procurable in the bazar may be computed as bearing the proportion of 1000 roses to a seer of water; from 1000 roses most generally a seer and a half of rose-water is distilled, and perhaps from this even the attar has been removed. The boiler of the still will hold from 8000 to 12,000 or 16,000 roses. On 8000 roses from 10 to 11 seers of water will be placed, and 8 seers of rose-water will be distilled. This, after distillation, is placed in a carboy of glass, and is exposed to the sun for several days to become puckah or ripe; it is then stopped with cotton, and has a covering of moist clay put over it; this becoming hard, effectually prevents the scent from escaping. This is the best that can be procured, and the price will be from Rs. 12 to 16.

To procure the attar or otto of roses, the roses are put into the still, and the water passes over gradually, as in the case of the rose-water process; after the whole has come over, the rose-water is placed in a large, metal basin, which is covered

with wetted muslin tied over to prevent insects or dust getting into it; this vessel is let into the ground about two feet, which has been previously wetted with water, and it is allowed to remain quiet during the whole night. The attar is always made at the beginning of the season, when the nights are cool. In the morning the little film of attar which has formed upon the surface of the rose-water during the night is removed by means of a feather, and carefully placed in a small phial; and day after day, as the collection is made, it is placed for a short period in the sun, and after a sufficient quantity has been procured, it is poured off clear, and of the colour of amber, into small phials. Pure attar, when it has been removed only 3 or 4 days, has a pale greenish hue; by keeping, it loses this, and in a few weeks' time it becomes of a pale yellow. The first few days' distillation does not produce such fine attar as comes off afterwards, in consequence of the dust or little particles of dirt in the still and the tube being mixed with it. This is readily separated, from its sinking to the bottom of the attar, which melts at a temperature of 84°. From one lakh of roses it is generally calculated that 180 grains, or 1 tola, of attar can be procured; more than this can be obtained if the roses are full-sized, and the nights cold to allow of the congelation. The attar purchased in the bazar is generally adulterated, mixed with sandal oil or sweet oil. Not even the richest native will give the price at which the purest attar alone can be obtained, and the purest attar that is made is sold only to Europeans, selling at from 50 to 90 rupees the tola.

In India, native stills are let out at so much per day or week, and it frequently occurs that the residents prepare some rose-water for their own use as a present to their friends, to secure their being provided with that which is the best. The natives of India never remove the calyces of the rose flowers, but place the whole into the still as it comes from the garden. The best plan appears to be to have these removed, as by this means the rose-water may be preserved a longer time, and is not spoiled by the acid smell occasionally met with in the native rose-water. It is usual to calculate 100 bottles to 1 lakh of roses. The rose-water should always be twice distilled; over 10,000 roses, water may be put to allow of 16 or 20 bottles coming out; the following day these 20 bottles are placed over 8000 more roses, and about 18 bottles of rose-water are distilled. This may be considered the best to be met with. The attar is so much lighter than the rose-water, that previous to use it is better to expose the rose-water to the sun for a few days, to allow of its being well mixed; and rose-water that has been kept six months is always better than that which has recently been made. At the commencement of the rose season, people from all parts come to make their purchases, and very large quantities are prepared and sold. There are about 36 places in the city of Ghazipur where rose-water is distilled. These people generally put a large quantity of sandal oil into the receiver; the oil is afterwards carefully removed and sold as sandal-attar, and the water put into carboys and disposed of as rose-water. At the time of sale, a few drops of sandal oil are placed on the neck of the carboy to give it a fresh scent, and to many of the natives it appears perfectly immaterial whether the scent arise solely

ROSE CHAINS.

from the sandal oil or from the roses. Large quantities of sandal oil are every year brought up from the south of India and expended in this way.

The chief use the natives appear to make of the rose-water, and the sandal-attar or sandal-oil, is at the period of their festivals and weddings. It is then distributed largely to the guests as they arrive, and sprinkled with profusion in the apartments. A large quantity of rose-water is sold at Benares, and many of the native rajas send over to Ghazipur for its purchase. Most of the rose-water, so soon as distilled, is taken away, and after six months from the termination of the manufacture there are not more than four or five places where it is to be met with. The value of the roses sold for the manufacture of rose-water may be estimated at 15,000 to 20,000 rupees a year; and from the usual price asked for the rose-water, and for which it is sold, there may be a profit of 40,000 rupees. The natives are very fond of using the rose-water as medicine, or as a vehicle for other mixtures, and they consume a good deal of the petals for the conserve of roses, or gul-kand, as they call it. The delightful fragrance from the Ghazipur rose fields can be scented at 7 miles distance on the river Ganges. The most approved mode of ascertaining the quality of a tar is to drop it on a piece of paper; its strength is ascertained by the quickness with which it evaporates, and its worth by its leaving no stains on the paper. The best otto is now manufactured at Constantinople, and it is largely made in France.—*O'Shaughnessy*, p. 326.

ROSE CHAINS, made of gold at Trichinopoly, are perfect marvels of the goldsmith's art. So minute is the chasing of the pattern of the rose in each link, that, unaided by a magnifying power, the eye is unable to trace its delicate outline and beauty of form. In some, the little links are drawn so close together as to be only visible on the closest inspection. It is difficult at first to believe that it is anything but a mere length of solid gold wire, and only when examined in the hand does its perfect flexibility betray its manner of construction. Waistbands are made, consisting of eight and sixteen of these fairy-like chains, which appear as bunches of golden thread, and they are fastened with gold clasps, set with emeralds and rubies for ornamental purposes.

ROSELLE.

Kasericca, . . . HIND. | *Pulchay kiray*, . . . TAM.
Hibiscus subdariffa, LAT. | *Yerra gogu*, . . . TEL.

This plant is cultivated in most gardens all over India, for its fleshy calyces, which have a pleasantly acid taste, and make excellent tarts and jelly; and in the West Indies, for refreshing drinks. The stems, if cut when in flower, and the bark stripped off and steeped immediately, a mass of minute fibres is displayed, of a fine silky nature.

ROSE MALOES. ANGLO-MALAY.

Non-t'yok, . . . BURM. | *Liquid storax*, . . . ENO.
Su-hoh-you, . . . CHIN. | *Storax*, . . . "
Su-hoh-you-hiang, . . . " | *Rasa-mala*, . . . MALAY.

This semi-fluid resin is the product of the *Liquidamber altingia*, which grows in Tenasserim. The resin sold in China is a thick, scented, gummy oil, of the consistence of tar; it is brought from Persia via India to China, and when good has a pearly appearance. The price has declined much of late years; it used to sell for 30 dols. per pikul. It is used for medicinal purposes.

ROSEWOOD.

—*Morrison's Compendious Description; Williams' Mid. King.* ii. p. 406; *Smith*.

ROSEMARY, the tops of *Rosmarinus officinalis*, Linn., the *Akilil-ul-Jabl* or the mountain crown of the Arabs, a translation of *Libanotis coronaria*, its former European name.

ROSEN, FREDERIC, obit 1837, aged 32 years. He was the editor and translator of the first book of the *Rig Veda*.

ROSE OF JERICHO.

Kaf Mariam, . . . ARAB. | *Rose de Jericho*, . . . FA.
Mary's Hand, . . . ENG. | *Jerora hygrometrica*, "

The rose of Jericho (*Anastatica hierochuntina*, L.), growing in the deserts of Arabia, Palestine, Barbary, and Egypt, is an annual; after withering, its hygrometric stems roll themselves up in a ball, are loosened, and blown about by the wind, expanding again with the first rainfall. The winds hurry the round ball from place to place until it is left in some moist situation, generally the seashore, where it is driven to and fro by the land winds along with the sand which forms the barriers of the beach. Here the seeds are expelled from the contracted seed-vessels on the plant recovering its original form, and receive sufficient moisture for germination, and when blown back to the deserts it puts out its shoots and grows luxuriantly. The people believe that if put in water at the time when a woman's labour pains begin, it will expand the instant that the child is born. They say that it first blossomed on Christmas eve to salute the birth of the Redeemer, and paid homage to his resurrection by remaining expanded till Easter.—*Lind. Murray*.

ROSETTA STONE, a stone discovered on the redoubt of the town of Reshid, by an artillery officer of the French army, when digging the foundations of Fort St. Julian at Rosetta, in August 1799. It is of a dark syenitic basalt, and contains an inscription, the upper part in hieroglyphics, the enchorial or common Egyptian, and Greek. It was first in part translated in 1813 by Dr. Thomas Young, a physician of Great Britain. It is in the British Museum.

ROSETTA WOOD is a good-sized East India wood, imported into Europe in logs 9 to 14 inches diameter; it is handsomely veined, the general colour is a lively red-orange (like the skin of the Malta orange) with darker marks, which are sometimes nearly black; the wood is close, hard, and very beautiful when first cut, but soon gets darker.—*Holtz*.

ROSE-WATER.

Siang-wei-lu, . . . CHIN. | *Ayar mawar*, . . . MALAY.
Gulab-ka-pani, . . . HIND. | *Ab-i-gul*, . . . PERS.

The water distilled from roses, and put for sale into large glass bottles of about three imperial gallons capacity each, called carboys. A large quantity is annually exported from the Persian Gulf to Bombay; that sold in Benares is obtained from Ghazipur, where it is largely distilled. Rose-water is much esteemed on account of its great fragrance, and is chiefly used by the natives at the periods of their festivals and weddings. See *Rose*.

ROSEWOOD.

Tze-tau, . . . CHIN. | *Lignum Rhodium*, LAT.
Chinese rosewood, ENG. | *Aspalathus*, . . . "
E. Indian blackwood, . . . " | *Pao de rosada*, . . . PORT.
Bois du rose, . . . FR. | *Leno de rosa*, . . . SP.
Bois de Rhode, . . . " | *Biti-maram*, . . . TAM.
Rosen-holz, . . . GER. | *Yerra gudda-chava*, TEL.
Legno rodie, . . . IT. | *Gunga ravi*, . . . "

Like to ironwood, blackwood, redwood, etc., rosewood is a commercial term given to the timbers of several trees. Those used in Britain are produced in the Brazils, the Canary Isles, the East Indies, and Africa. They are imported in very large slabs, or the halves of trees, which average 18 inches wide. The best is from Rio de Janeiro (*Dalbergia*, sp.), the second quality from Bahia, and the commonest from the East Indies; the last is called East India blackwood, although it happens to be the lightest and most red-coloured of the three; it is devoid of the powerful smell of the true rosewood, which latter Dr. Lindley considers to be from a species of *mimos*a. The pores of the East India rosewood appear to contain less or none of the resinous matter from which the odour, like that of the flower of *Acacia armata*, arises. One of the rosewoods contains so much gum and oil, that small splinters make excellent matches. The colours of rosewood are from light hazel to deep purple, or nearly black; the tints are sometimes abruptly contrasted, at other times striped or nearly uniform. The wood is very heavy; some specimens are close and fine in the grain, whereas others are as open as coarse mahogany, or rather are more abundant in veins. The black streaks are sometimes particularly hard, and very destructive to the tools employed on it. Next to mahogany, it is in England the most abundant of the furniture woods. A large quantity is cut into veneers for upholstery and cabinet work, and solid pieces are used for the same purposes, and for a great variety of turned articles of ordinary consumption. Mr. Poole, in his *Statistics of Commerce*, describes it as a highly-esteemed, dark-brown coloured fancy wood, principally used in veneering and making costly furniture. That delivered in England, he says, is imported chiefly from Bahia and Rio de Janeiro, into London and Liverpool. It is in the form of the halves of trees averaging 18 inches wide, and in weight 2½ cwt., called planks, of which the import in 1851 was 2000 tons. Price, ordinarily, £9 to £19, but rising occasionally to £90 per ton. The rosewood of the Tenasserim Provinces is a very beautiful, hard, compact timber, resembling Andaman wood, and is occasionally seen in the bazar of Calcutta. From Siam and other places, a rosewood is largely exported by the Chinese. These woods are generally esteemed according to the degree in which the darker parts are distinct from the purple red, which form the ground. One rosewood was called *Lignum Rhodium*, *Aspalathus*, whence the *Oleum Rhodii* is obtained; heavy, oleaginous, somewhat sharp and bitter to the taste, of a strong smell, and purple colour. The Chinese rosewood, called Tze-tau, is odorous, of a reddish-black colour, streaked, and full of fine veins, which appear as if painted. The manufactures of this wood are more valued in China than the varnished or japanned. There are baser kinds of rosewood of inferior value. East Indian blackwood or rosewood, from the *Dalbergia latifolia* and *D. sissooides*, is an excellent heavy wood, suited for the best furniture. It can be procured in large quantities, and of considerable size; the wood contains much oil. In large panels it is liable to split.—*Faulkner*; *Morrison's Compendious Description*; *M. E. Jr. Rep.*; *Mason's Tenasserim*; *Holtzapfel*; *Poole's St. of Commerce*; *M'Culloch*.

ROSIN.

Ral, Rala, Ralla, . . . HIND. | Coongilium, . . . TAM.
Damar, . . . MALAY. | Gugalam, . . . TEL.

The resin or common resin of Europe is obtained as a residuary matter in the process for obtaining the oil of turpentine. Turpentine is oleo-resins. In their natural state they are either solid or semi-fluid, the oil of turpentine being obtained by distillation of American turpentine with water, and is from the *Pinus palustris*; partly also from the *Pinus toeda*, and perhaps some other species inhabiting the Southern States, from North Carolina and the south-eastern part of Virginia. A hollow is cut in the tree a few inches above the ground, and the bark removed for the space of about eighteen inches above it. The turpentine runs into this excavation from about March to October; more rapidly, of course, during the warmer months. It is transferred from these hollows into casks. Old and concrete American turpentine is often sold as frankincense. Its imports into India are diminishing. See Dammer; Resin.

ROSMARINUS OFFICINALIS, Rosemary.

Aklil-ul-Jabl, . . . ARAB. | Hasalban-achsir, . . . ARAB.

A shrub three to four feet high, densely leafy, an inhabitant of the south of Europe and parts of Asia Minor. Eau de la reine d'Hongrie is the essential oil of this plant, stated most positively to possess the power of encouraging the growth of hair and of curing baldness. It is the colouring ingredient of green pomatums.—*O'Sh*.

ROSS, DANIEL, a naval officer who rose to the rank of captain in the Indian navy. Between 1828 and 1840, he surveyed the east coast of the Bay of Bengal, from the mouths of the Hoogly to the Straits of Malacca. He succeeded Captain Court in 1823 as Marine Surveyor-General at Olanutta, where he introduced a really scientific method of survey, and earned the title of the Father of the Indian Survey. He was succeeded by Captain Lloyd, on his resigning the office in 1833, and he became Master Attendant at Bombay until before his death.—*E. I. Marine Surveys*, P.P. 1871.

ROSS. Captain Sir James Clark Ross, an officer of the British navy, who discovered the north magnetic pole. He left in September 1839 with the *Erebus* and *Terror*, and voyaged along the antarctic continent, naming Mount Erebus, 12,400 feet, and Mount Terror, 10,900 feet. The former is volcanic, hurling columns of smoke 1500 and 2000 feet above the crater. He made other two voyages, and in the last discovered the south magnetic pole.

ROSTELLARIA PROCUMBENS. *Nees*.

Justicia procumbens, *Linn*.

Nireputi, . . . TAM. | Nuka puta, . . . TEL.

A shrub common on the Coromandel coast of India, used in medicine. There are other species.

ROT, a name given to a disease in the coffee plant. In this disease the young coffee leaves and shoots turn black and wither, caused generally by too much wet and cold, and is to be remedied by draining the ground well, laying down also, if possible, man grass two to three inches thick. When grubs attack the tap-root, the coffee trees are observed to die off, and on digging round, grubs will be found about the tap-root. Grasshoppers (locusts?) cut down young trees close to the ground, and saw off the branches of the older trees.—*Hull*, p. 274.

ROTANG, a pass in the Himalaya, in lat. 32° 24' N., and long. 77° 10' E., is 13,200 feet above the sea. The Rotang pass near Dharmasala leads to the heart of Central Asia. The Beas river rises in a sacred pool, called Vyas Rikhi, in the Rotang pass, at the head of Kulu valley. The scenery of the river valley is very beautiful, and is unlike that of the Chenab or Sutlej. The river is fringed with trees, and studded with green islands. There is a good riding path close along the bank, which does not exist upon any other river in the Panjab. Besides deodar in the Upper Beas valley, kail, *P. excelsa*, elm, maple, oak, and walnut are abundant; on the Parbati, box occurs; also olive and the twisted cypress (*C. torulosa*) are found in small quantity.—*Powell's Handbook*; *Lord Elgin*.

ROTH. Several prominent learned men of this name have had relations with India.

A. W. Roth, author of *Novæ Plantarum Species, præsentim Indæ Orientalis*.

Heinrich Roth, a German missionary, about A.D. 1650, resided in India. He was able to dispute in Sanskrit with the Brahmins.

Rudolph Roth, in 1844 published three dissertations on the literature and history of the Vedas. He was editor of the *Atharva Veda*.—*Sayce*, i. 44.

ROTHIA TRIFOLIATA. *Pers.*

Trigonella Indica, *Linn.*

Nurrey pithen kiray, TAM. | Ubukkada, . . . TEL.

An annual, native of the Coromandel coast, with small yellow flowers. It is a small procumbent weed with trifoliate leaves, used by the natives as greens; abundant everywhere.—*Jaffrey*.

ROTI. HIND. Any bread; the chapatti or flat cake. Leavened bread is called nan, also roti. Roti is also sweetened wheat cakes beameared with sandal, but is properly unleavened bread. Roti raughandar are wheat cakes with a superabundance of ghi in them. See Bread; Sooji; Rolong.

ROTTBELLIA EXALTATA. *Linn.*

Stegosis Cochinchinensis, *Lour.* | *Buru-Shunti*, BENG.

A plant of British India, Cochin-China, and N. Holland.

ROTTBELLIA GLABRA. *Roxb.* Buska, Bukaha, BENG. A grass of the family *Panicacæ*, acceptable to cattle.—*Roxb.*

ROTTEN-STONE, a mineral, occurring massive; colour greyish, reddish, or blackish brown; dull, earthy, and opaque. Soft, soils the fingers, and is fetid when rubbed or scraped. It is employed in polishing metal, etc.; in 100 parts, alumina 86, silica 4, carbonaceous matter 10. Very fine silicious and magnesian earths, such as rotten-stone, alkaline loam, and Armenian bole, occur near Sundur, Bangalore, and Cuddapah.—*Eng. Cyc.*; *Mad. Ex. Jur. Rep.*

ROTTLER, Dr. A., a Danish missionary long resident at Tranquebar, in the south of India, who wrote a Tamil dictionary and collected a herbarium. He was esteemed the father of Indian botany.

ROTLERA, a genus of plants, named in honour of Dr. Rottler. Its species are found in the tropical parts of Asia and throughout India, and contain handsome moderate-sized trees. *R. tetracocca* grows in Sylhet, and yields a hard and valuable timber; *R. digyna*, *Thw.* (*Chloroxylon digyllum*, *Wight Ic.*), is a small tree growing at Caltura in Ceylon; *R. eriocarpa*, *Thw.*, grows in

the hot and drier parts of Ceylon, but is not very common; and *R. fuscescens*, *Thw.*, another small Ceylon tree, is not uncommon up to an elevation of 2000 feet. In Ceylon, also, are found *R. muricata*, *Thw.*, *R. oppositifolia*, *Blume*, and *R. rhombifolia*, *Thw.*, all small trees. Other defined species of India are *R. alba*, *barbata*, *ferruginea*, *Indica*, *laccifera*, and *peltata*. Some botanists have arranged the species under the genus *Mallotus*, and name above twenty of them. One of undetermined species, the Ya-gi-ne of the Burmese, is a moderate-sized tree, common on the low ground near streams; breaking weight from 153 to 170 lbs. A cubic foot weighs 35 lbs.; average girth, 6 feet. The Mimasho, qu. Mimasho? is a Tavoy species, furnishing a timber. The Keoun-lae, BURM., is a large tree in Tavoy, the timber of which is used for rudders. The Otte of the Singhalese, another species, is used for common house-building purposes; the tree grows in the western province of Ceylon. It weighs 36 lbs. to the cubic foot, but is little durable, lasting only 10 years.—*Dr. Wallich*; *Thw.* p. 272; *Dr. Brandis*, *Cal. Cat. Ex.*, 1862.

ROTLERA LACCIFERA. *Voigt.*

<i>R. dicocca</i> , <i>Roxb.</i>	<i>Aleurites lacciferum</i> , <i>W.</i>
<i>Croton lacciferum</i> , <i>Linn.</i>	Wild arnotto.
Ank-kush, . . . BENG.	Konda-veltu, . . . TEL.
Konda jap'hara, . . . TEL.	Peyya rodde, . . . "
Karu jap'hara, . . . "	Peyya rotta, . . . "
Konda kasina, . . . "	

A twining shrub of Coromandel, Bengal, and Ceylon; a very superior quality of gum lac is obtained from it.—*Roxb.*; *Thw.*

ROTLERA MURICATA. *Thwaites.*

<i>Chloroxylon muricata</i> , <i>W.</i>	<i>R. Aureo-punctata</i> , <i>Dalz.</i>
<i>Mallotus muricatus</i> , <i>Mull.</i>	

A small tree with smooth leaves, on the Western Ghats, Andamans, and central provinces of Ceylon, grows at an elevation of 4000 feet.—*Thw.*

ROTLERA OPPOSITIFOLIA. *Blume.* *Plagianthera oppositifolia*, *R. et Zoll.* Common in Ceylon up to an elevation of 2000 feet.—*Thw.*

ROTLERA RHOMBIFOLIA. *Thw.*

<i>R. dicocca</i> , <i>Roxb.</i>	<i>Croton rhombifolium</i> , <i>W.</i>
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A small tree not uncommon in Ceylon up to an elevation of 1500 feet.—*Thw.*

ROTLERA TETRACOCCA. *Roxb.* Bookanda-gass, SINGH. Grows in Sylhet, and in Ceylon is common up to an elevation of 2000 feet. It yields a hard and valuable timber.—*Roxb.*; *Voigt*; *Thw. Zeyl.* p. 272.

ROTLERA TINCTORIA. *Roxb.* iii. p. 827.

<i>R. aurantiaca</i> , <i>H. and A.</i>	<i>C. coccineus</i> , <i>Lam.</i>
<i>R. affinis</i> , <i>Hassk.</i>	<i>C. montanus</i> , <i>Willd.</i>
<i>Mallotus Philippensis</i> , <i>L.</i>	<i>C. punctatus</i> , <i>Retz.</i>
<i>Oroton Philippensis</i> , <i>Lam.</i>	

Tung, . . . BENG.	Punnaga, . . . SANSE.
Tan tie den, . . . BURM.	Keshoor, . . .
Kinoon la, . . . "	Hamparandella, . . . SINGH.
Memasho, . . . "	Kapilapodi, . . . TAM.
Sarnakassary mara, CAN.	Corunga munjemaram, . . .
Monkey-faced tree, BENG.	Chendurapu chettu, TEL.
Dyer's Rottlera, . . .	Sinduri chettu, . . .
Kameel, Kamila, HIND.	Kunkumapuvvu chettu, . . .
Tukla, Kapila, . . .	Punnagamu chettu, . . .
Rulya, Kumbal, . . .	Vassata gundu chettu, . . .
Reun, Reunah, KANAWAR.	Veligaram chettu, . . .
Reini, . . .	Bendu rapu, . . .
Shendi, Sendri, . . . MAHE.	Soondoro-gundi, UBIYA?
Poonnagam, . . . MALEAL.	Koomala-gundi, . . .
Kambha, . . . SANSE.	Bosonto-gundi, . . .

A large tree, with alternate, ovate, oblong leaves, of a ferruginous colour beneath; flowers in the cold weather. It is common in many parts of

British India, from Peshawur, Assam, to Ceylon, Burma, Java, Philippines, and China. The stellate pubescence covering the 3-coccus capsule of this large tree is collected for sale for dyeing silk. The colouring matter does not require a mordant, all that is necessary being to mix it with water containing about half its weight of carbonate of soda. The colour imparted is a rich flame or orange tint of great beauty and extreme stability; the material supplied by commerce contains 78 per cent. of colouring matter, and the powder consists of hairs obtained from the outer part of the first capsule, and when the fruit is ripe it is brushed off and collected. It is also found sparingly on the leaves, petioles, and flower-stalks of the plant. The powder is of a dark brick-red colour, with a peculiar heavy odour, increased on its being rubbed between the fingers. Two varieties of it are sold in the bazars in the Panjab, the one having been passed through coarse cloth to free it from impurities, such as portions of the withered flowers, dust, or insects, but the only appreciable difference is that this finer quality is cleaner than the other. To cold water the powder does not impart its yellow colour, but either floats on the surface or falls in small quantities to the bottom. Boiling water becomes slightly tinged by it. If the powder be boiled in water to which any of the alkalies have been added, a complete solution of the colouring matter takes place, and it is by means of this property that the natives of India avail themselves of it as a dye. Alcohol and ether dissolve it with equal facility. All these preparations of the powder have a dark-red colour, and the yellow colouring matter is only separated on the addition of certain re-agents. Thus, when the mineral acids are added to the alkaline decoction or infusion, a thick flocculent precipitate of a gamboge yellow colour is thrown down, and the same effect is produced on the alcoholic and ethereal tinctures on the addition of water or the mineral acids. Contact with the atmosphere seems to cause the development of this yellow deposit, as on exposing on glass a thin film of either of the tinctures, before evaporation of the fluid is completed, the previously transparent coating becomes opaque and of a light-yellow colour. The process of dyeing seems also to bear on this idea, as silk or cloth is merely dipped in a hot alkaline solution which is of a dark-red colour, and on the drying of the cloth the characteristic yellow colour is developed. The resinous deposit, on which the active properties of the plant both as an anthelmintic and a dye depend, is obtained in a large quantity from an alkaline decoction of the powder by boiling eight ounces of the powder in two pints of water, along with one ounce of the bicarbonate of soda. Filter when cool, and to the filtered liquid add nitric acid till the solution becomes neutral. A considerable quantity of yellow matter then forms in the fluid, which is again filtered, and this yellow residue, when dry, is found to weigh one and a half ounces, is of a dusky yellow colour, and adheres in lumps of considerable consistence. The substance probably exists in the plant as an essential oil, and the formation of the yellow-coloured deposit, on the neutralization of alkaline solutions, and the addition of water or the acids to the alcoholic

and ethereal solutions, or by the action of air, consists in the change of the essential oil to a resin, by the loss of hydrogen and the absorption of oxygen. The silk dyers of Southern India use the following method:—4 parts of the powder, 1 part of powdered alum, 2 parts of salts of soda, rubbed well together with oil of sesamum and then boiled in water; it is sufficient, however, to mix it with water containing half its weight of carbonate of soda. The powder, as found in the bazars, is much adulterated, but some collected carefully by the Madras Forest Department, realized a high price in the English markets. In the process of dyeing, as pursued in Amritsar, where a large trade in silk is carried on, barilla, a coarse preparation of carbonate of potash, obtained by burning a herbaceous species of *salsola* common in the uncultivated portions of the Panjab, is mixed with water, in the proportion of one ounce of barilla to four ounces of water. To this solution, when filtered, the kamila is added, and they are then boiled together. When the boiling has been continued long enough to extract all the colouring matter, a small quantity of lime is dissolved in the fluid. The dye is then ready for use, with the exception of the addition of few grains of alum, in order to fix the colour. In some parts of India, gum is occasionally mixed with the fluid, but in the Panjab this is never considered necessary. The characteristic yellow colour is not developed in silk, etc., until after two or three immersions in the dyeing fluid. The kamila dye is sold in the drug mart of Amritsar at Rs. 18 a maund for the first quality, and Rs. 10 for the second. (This is at the rate of 2 lbs. for 6d.) It contains a yellow resin, rottlerine, soluble in carbonate of soda, and precipitated by acids. It acts as a purgative and very sure anthelmintic in cases of tapeworm, in doses of from one to two drachms. It is in some districts used as an application to cutaneous diseases, especially for itch and fevers, and it is said to be also an aphrodisiac.—*Cleghorn; Ind. Annals Med. Sc. i. 85; Irvine's Med. Top.; Hooker, i. 14; Ains; Honigb.; Powell; Riddell; Ex. Jur. Rep.; Thwaites; Stewart; Beddome.*

ROTTTO or Rotti and Lando are islands near Timor. Rotto is about 45 miles long, and of moderate height, with undulating hills, and its S.W. end extends to about lat. 11° 2' S., and long. 122° 51' E.

ROUGE. Yen-chi, CHIN.; Carmine, ENG. Rouge is a pigment of a beautiful rose colour. The Chinese rouge is wholly of vegetable origin; safflower is made into a paste, from which the colouring matter is extracted by repeated washing with acidulated water. For toilet purposes, the colouring matter is spread upon squares of paper, or laid on the surface of little saucers, the constant accompaniment of a Chinese lady's toilet. The lips and cheeks are coloured with this, the face is dusted with white powder, and the outline of the eyebrows and front of the wiry hair are often brought out with Chinese ink. The higher officers of the Chinese provinces use safflower rouge, to distinguish them from the ordinary vermilion stamp of the inferior officers.

The common rouge of the theatres of Europe is prepared by pounding benzoin, red sandalwood, Brazil wood, and alum in brandy. The mixture is then boiled until three-fourths of the

liquid has evaporated; a paint of an intense red colour remains, and this is applied to the face with a piece of soft cotton. Vinegar is sometimes substituted for the brady; but as both fluids injure the skin, the colouring matter is sometimes extracted from the dye-woods, and unguents formed therewith, by means of balm of Mecca, butter of cacao, or spermaceti. If the colour be too intense it is mixed with chalk.

Rouge dishes are small saucers containing a layer of dry rouge. Those which are prepared in Portugal probably contain genuine carmine; clumsy imitations of these dishes are prepared in London. Spanish wool and oriental wool are also rouge vehicles. Wool is impregnated with the colour, and formed into cakes about the size of a crown piece by the Spaniards, and somewhat larger by the Chinese; the latter is most esteemed. Beautifully painted and japanned colour-boxes are imported from China. Each box contains 24 papers, and in each paper are 3 smaller ones, namely, a lovely blushing red for the cheeks, an alabaster white for the face and neck, and a jet black for the eyebrows. Rouge, used by jewellers for brightening gold, is a peroxide of iron.—*Smith.*

ROUMIA HEBECARPA. *Poit.* Katambilla, SINGH. A moderate-sized Ceylon tree, at Condassalle, Maturatte, etc.; prized in Colombo on account of its fruits, which are about the size of large cherries, somewhat acidulous, with a very agreeable flavour.—*Wight's Ill.* i. p. 37; *Thw.*

ROUSHANAI, a Muhammadan sect which made a great noise among the Afghans in the 16th century, but by the beginning of the 19th century it was almost extinct. It was founded in the reign of the emperor Akbar, by Bayazid Ansari, who was called by his enemies the Pir-i-Tarik (or Apostle of Darkness), in derision of the title of Pir-i-Roushan (or Apostle of Light), which he had himself assumed, Roushanai meaning the Enlightened. He held the same tenets with the Sufi sect, but as he added a belief in the transmigration of souls, it is probable he derived his creed from the Yogi sect of Hindu philosophers, who add some of the dogmas of the religion in which they were educated to those of the Sufi school. On this, however, he ingrafted some doctrines of his own. Bayazid was a man of great genius, and his views spread rapidly among the Bardurani, till he was able to assemble armies, and to enter on a regular contest with the government.—*Elphinstone's Caubul*, p. 210.

ROVUMA, a river which disembogues on the east coast of Africa; its mouth, in lat. 10° 27' 40" S., and long 40° 29' 39" E., is a mile wide, but its navigable channel is narrow.

ROXANA, a Turkomani wife of Alexander the Great.

ROXBURGH, WILLIAM, M.D., a medical officer of the Madras army, in the service of the E. I. Company, who was their botanist in the Carnatic, and subsequently in charge of the gardens in Calcutta. He entered the Madras Service 1766, and died in 1815. He was author of *Coromandel Plants*, and of the *Flora Indica*. The former work was published by the order of the E. I. Company, in three folio volumes, under the direction of Sir Joseph Banks, Bart., in 1793 and 1816, with three hundred coloured plates, and it was the first contribution of the British

Indian Government to the illustration of botanical science. His *Flora Indica* remained in manuscript for some years after his death. Two editions of it have since that event been published; one, which is incomplete, was edited by Drs. Carey and Wallich; it extends to the end of *Pentandria Monogynia*, but contains many additional plants not contained in Roxburgh's manuscript; the other, which is an exact reprint of the manuscript as left by its author, is in three volumes, and was published in 1832. A new edition of this appeared in 1878? He also published the *Hortus Bengalensis* and *Catalogue of the Calcutta Garden*. He was the first to describe fully, accurately, and reduce to the form of flora, according to the Linnæan system, the botanical riches of the east. During the earlier part of his career he resided in the Peninsula, particularly about Samulcottah, where he had ample opportunities of examining the botany of the neighbouring Circar mountains. In the autumn of 1793, he was removed to the superintendence of the Company's Botanic Garden in Calcutta. Here he remained till 1814, adding new descriptions to his manuscript, when illness compelled him to return by the Cape and St. Helena to England. During his lifetime there appeared from his pen,—*Plants of the Coast of Coromandel*, fol. 3 vols., Lond. 1795-1819; *Hortus Bengalensis*, or a Catalogue of the Plants growing in the East India Company's Botanic Garden at Calcutta, edited by Wm. Carey, 8vo, Serampur 1814; and in the *Asiatic Researches*—*Essays on the Lac Insect* (ii. p. 361); on the *Butea Plant* (iii. 369); on the *Prosopis Aculeata* (iv. p. 405); on the *Spike-nard of the Ancients* (iv. p. 432); on the *Caoutchouc of Penang* (v. p. 167); on a *New Species of Delphinus* (vii. p. 170); on the *Monandrous Plants of India* (xi. p. 318). And after his death, there were published, his *Flora Indica*, or *Descriptions of Indian Plants*, with *Descriptions of Plants more recently discovered*, edited by N. Wallich and Dr. Carey, 2 vols. 8vo, Serampur 1820; *Flora Indica*, or *Description of Indian Plants*, 3 vols. 8vo, edited by Dr. Carey, Serampur 1832.

ROXBURGHACEÆ, a natural order of plants, natives of the hot parts of India. There is but one genus—*Roxburghia*. The roots of one of its species are prepared with lime-water, candied with sugar, and taken with tea. The flavour is insipid. Dr. Wight gives *R. gloriosoides*.—*Lindley; Eng. Cyc.*

ROYLE, JOHN FORBES, M.D., F.R.S., of the Bengal Medical Service. Author of the *Geographical Description of the Flora of India*, Rep. Brit. Ass., 1846, part iii. p. 74; *Illustrations of the Botany*, etc., of the *Himalayan Mountains*, 1839; *Productive Resources of India*, Lond. 1840; on the *Culture of Cotton in India*, Lond. 1852, 1 vol. 8vo; on the *Fibrous Plants of India*. In 1820 Dr. Royle commenced his Indian career, and died at Acton, 2d January 1858. Shortly after his appointment as Assistant-Surgeon on the Bengal Establishment, he was placed in charge of the Botanic Garden at Saharunpur, where he remained for nearly nine years. On his return to England in 1832 or 1833, he commenced the publication of his work on the Botany of the Himalayan Mountains, which contains also an accumulation of valuable information respecting the economical, medicinal, and other vegetable

ROYLEA ELEGANS.

products of India. In 1838 or 1839, he was appointed Botanical Adviser to the E. I. Company, after which he published a work on the Productive Resources of India, which contains a great amount of useful information culled from various sources, combined with his own experience and research; and in 1851, a work on the Culture and Commerce of Cotton in India and elsewhere.

After the breaking out of the Russian war of 1853, Dr. Royle, in 1855, wrote on Fibrous Plants of India fitted for Cordage, Clothing, and Paper.

In addition to these, he published on the Antiquity of Hindu Medicine; an Essay on Medical Education; a Manual of Materia Medica and Therapeutics; besides contributions to Kitto's Cyclopaedia, Holtzapfel's Turning and Mechanical Manipulation, to the Catalogue of the Great Exhibition of 1851; on the Hyssop, and on the Mustard Plant of Scripture; on the Culture of the China Tea Plant; and very shortly before his death, a pamphlet reviewing the measures which have been adopted in India for the improved culture of cotton. The districts investigated by Dr. Royle and by his collectors were chiefly the Jumno-Gangetic Doab, the upper part of the Gangetic plain, and the mountains of Garhwal, Sirmore, Kanawar, and Kashmir. His Illustrations of the Botany of the Himalayan Mountains, in two volumes quarto, with 100 plates, is still the only book, except Dr. Wallich's Tentamen Floræ Nepalensis, devoted to the rich flora of the mountains; and it further contains the first attempt to demonstrate the prominent features of the geographical distribution of Northern Indian plants in reference to the elevations and climates they inhabit, and to the botany of surrounding countries.—*Hooker and Thomson's Flor. Indica; Indian Field.*

ROYLEA ELEGANS. *Wall.*

Ballotta cinera, D. Don. | *Phlomis calycina, Roxb.*

A shrub of the Himalaya valleys, with small, white, pale rose-coloured flowers. It is deemed a febrifuge by the people of the Himalaya, like some species of *Teucrium* in Europe.—*O'Sh. p. 492; Voigt.*

ROZA, a fast. *Roza-ka-fittra*, fast offerings. *Roza Rak'hna*, keeping a fast, a duty in the Muhammadan religion. *Roza Kholna*, to terminate a fast.

ROZAH, Rodah, or Rawdat. *ARAB.* Any garden, applied in India by Muhammadans to a burial-place. There are many of these. The most known is that on the hill eight miles from Dowlatabad, where the Emperor Aurangzeb is interred. Those of Bawa Alisar and Ganja Baksh, at Maqraba, in Ahmadabad, are admirably built. The island opposite Old Cairo, known as Roda, is the Egyptian form of the Arabic sound of d given to the letter zwad. This name is given also to a part of the southern portion of the Great Mosque of Medina, because the prophet said, 'Between my tomb and my pulpit is a garden of the gardens of Paradise.' It is a frequent term for a book, as *Rawzat-ul-Athar*, *Rauzat-us-Safa*, and *Rauzat-us-Shahada*, the book of martyrs.

RUBIA CORDATA is used in Japan by the country people for dyeing.—*Thunberg's Tr. iii. 63.*

RUBIA CORDIFOLIA. *Linn.* Indian madder. *Rubia munjistha, Roxb.* | *R. secunda, Mcon.* *R. munjith, Desv.*

RUBIA TINCTORUM.

Runas,	ARAB.	Mitu,	RAVI.
Aruna, Munjith,	BENG.	Munjistha,	SANSK.
Khuri, Sheni,	CHENAB.	Munzul,	SUTLEJ.
Runa,		Runang,	
Sj-tanu-ken,	CHIN.	Sawil kodi,	TAM.
Kukar-phali,	JHELM.	Manjitta, ver.	
Tinru,		Manjishatige,	"
Dandu, Fahar-ghas, KANA.		Tamravalli,	"
Puat,	MALKAL.		

Rubia cordifolia is a native of Siberia, but is cultivated largely in China, Assam, Nepal, Bombay, Sind, Quetta, etc., for its dye-stuff. A small quantity is exported from China and India. It fetches in the London and Liverpool markets from 20s. to 30s. per cwt., duty free. In 1851, at the Great Exhibition, the jury remarked that some of the colours dyed with it are quite as permanent as those dyed with madder, and even more brilliant. Botanists have been inclined to regard *R. cordifolia* and *R. munjistha* as distinct in habit, form of stem, etc.; there are differences sufficient to make them distinct species. *R. munjistha*, Dr. Gibson observes, is not such a large climber as the other; Bancroft was informed by Dr. Roxburgh that the stem of *R. munjistha*, unlike the stem of *R. tinctorum*, seemed to be preferred to the roots for dyeing; Roxburgh, in his *Flora Indica*, adds that, not only the roots and the stems, but the large branches also, are used to dye red with. It is imported into Bombay, of an apparently inferior quality, from Muscat, and into the Panjab from Afghanistan, forming a considerable part of the large annual investments of the Lohani merchants. From the Panjab, as well as from Afghanistan direct, it goes to Sind, and thence to Bombay, where it realizes 40 per cent. more than the Muscat article, and is re-exported to England. It is extensively used in the Panjab, in Sind, and in the North-Western Provinces, as a dye-stuff, and is found in every bazar of any extent.

The munjit brought from Afghanistan answers exactly to the description given in *Ure's Dictionary of Arts*. It is either the true madder of Europe, or is produced by a species of *rubia* found in almost all parts of India distinct from *R. munjistha*.

An infusion of it is given as a grateful and strengthening drink to weakly women after lying-in. Camel loads of madder are brought from Banu and Tonk, on the west side of the Indus, to Lahore.—*Roxb.; Smith; Stewart; Mason; Irvine; Ains.; Honig.*

RUBIA TINCTORUM. Madder. This tree has a diffuse brittle-branched stem, angular, very rough, with sharp hooks, and madder is the product of the long slender roots. The tree is only known in its cultivated state in Asia. Dr. Brandis first found it being grown in small quantity on the Sutlej at about 8000 to 8500 feet, for home consumption to dye wool red. Dr. Stewart found it in Kanawar. Irvine mentions that a little is collected in Gandaya, Baluchistan, and parts of Turkestan, but that the chief tract for its cultivation is from Kābul to near Kandahar. According to Cleghorn, madder has been grown in the Panjab from French seeds.

It is a native of Europe and Asia Minor, is extensively cultivated in Holland and France; the culture has likewise been successful in Great Britain, but it is largely imported, though cochineal has become cheaper, and is much used for

the same purposes. The principal supplies are obtained from Holland, Belgium, France, Turkey, Spain, and the Balearic Isles, the Italian States, India, and Ceylon. The plant is generally raised from seed, and requires three years to come to maturity. It is, however, often pulled in eighteen months without injury to the quality; the quantity only is smaller. A rich soil is necessary for its successful cultivation, and when the soil is impregnated with alkaline matter, the root acquires a red colour; in other cases it is yellow. The latter is preferred in Britain, from the long habit of using Dutch madder, which is of this colour; but in France the red sells at two francs per cwt. higher, being used for the Turkey-red dye. Madder does not deteriorate by keeping, provided it be kept dry. It contains three volatile colouring matters,—madder purple, orange, and red. The latter is in the form of crystals, having a fine orange-red colour, and called alizarin. This is the substance which yields the Turkey-red dye. The slender creeping roots are the thickness of the little finger, very long and branching, provided with numerous articulations, and tough fibrils; epidermis thin, pale brown; bark and medullium intensely red. The odour is weak and peculiar, taste bitter and styptic. According to Kuhlman's analysis, the roots contain red colouring matter (alizarin, *Robiquet*), yellow do. (xanthine, *Kuhl.*), woody fibre, mucilage, gum, sugar, bitter matter, resin, salts, albumen, etc. Alizarin occurs in orange-red crystals, tasteless, inodorous, little soluble in cold, but soluble in boiling water, also in alcohol, ether, the fixed oils, and alkalies. The alcoholic solution is rose-coloured, the ethereal golden, the alkaline violet or blue. A solution of alum added to a solution of alizarin, and precipitated by potash, gives a rose-lake of the most charming tint. Xanthine is yellow, very soluble in water and alcohol, slightly in ether; the solution passes to orange-red by contact with alkalies, to lemon-yellow by acids. It is devoid of odour, but has a sweetish-bitter taste. The red-colouring matter of madder tinges the bones, milk, and urine of animals if fed on the roots. The great consumption of madder is as a dye-stuff for giving a red colour to wool, silk, and cotton. In pharmacy the roots are sometimes used for colouring ointments.—*O'Shaughnessy*.

RUBINA, once the most celebrated tribe in Arabia, is now a small broken clan. The Anazah Arabs come of this race.—*Ritch's Kurdistan*.

RUBRUQUIS, WILLIAM DE, made a journey in A.D. 1253-1256 to Kara-korum, in the reign of Louis IX. of France, and of Mangu Khan, the grandson of Chengiz Khan.

While St. Louis of France was engaged in the seventh crusade, A.D. 1248-50, and the lieutenants of Oetai or Okkadai Khan were at the same time attacking the Saracens from the side of Persia, the Tartars and the Crusaders became united in a common interest. To cement their connection, the general who commanded the Tartar forces in Persia sent an embassy to the French king, expressing the respect he felt for Christianity, and recommending that they should make common cause against their Saracen enemies. A French embassy was at once sent into Persia; and at the same time the pious St. Louis, anxious to lose no opportunity, sent the Minorite Friar William de Rubruquis to the Tartar chief Sartakh, whose

territories bordered on the Black Sea. From Constantinople, Rubruquis sailed to Soldaia in the Crimea, one of the entrepôts at that time of the Black Sea trade in Russian furs, and Indian spices, drugs, and silks, through Constantinople, with the rest of Europe; and thence he journeyed northward through the region of Comania, until he came to the camp of Sartakh, by whom he was sent on to the court of his father Batou at Sara or Sarai. Here he was furnished with a guide to the court of Mangu, who had succeeded his cousin Kuyuk as Khakan or Great Khan at Kara-korum, on the verge of the great Mongolian desert. From the Mongol capital he returned to the court of Batou on the Volga, and thence to Europe, not by the Crimea, but over the Caucasus, through the country of the Lesgi (Lesghis) and Gurgi (Georgians), Armenia, and Iconium, where he had an interview with the Ottoman Sultan, and by the Cilician port of Ayas to Cyprus, where, at Nicosia, he found his provincial.

Rubruquis described Turkey (i.e. the kingdom of Iconium) at this time as having 'no treasure, few warriors, and many enemies.' He also strongly deprecated the system of sending poor friars like himself as ambassadors to the Great Khan, without office, presents, or any of the things that command the favour and respect of the profane. From his report, Nestorian Christians abounded at the courts and in the territories, as well of Batou Khan as of his superior Mangu Khan; that they had great influence with many at court, especially with the wives and daughters of these and other chiefs. Rubruquis relates that the reply of Mangu Khan to the letter of king Louis was written in the Mongolian language, but in the character of the Jugures or Chakars, which had been introduced by Nestorian Christians, and was derived from the Syrian, but written in lines down the page, commencing from the left. Mongolian is so written at the present day.—*Princeps's Tibet, Tartary, and Mongolia*.

RUBUS, a genus of plants of the order Rosaceæ. The following East Indian species are the better known, viz.:—

- R. asper, Nepal.
- R. biflorus, Sm., Panjab.
- R. ellipticus, Sm., Nepal.
- R. distans, Nepal.
- R. gowreepful, *Roxb.*, Neilgherries and other mountains of India.
- R. gracilis, *Roxb.*, Nepal.
- R. hexagynus, *Roxb.*, Peninsula.
- R. micranthus, Nepal.
- R. Moluccanus, L., Tavoy, Moluccas, Khassya.
- R. lasiocarpus, Sm., Neilgherries.
- R. paniculatus, Sm., Nepal.
- R. parviflorus, L., China, Nepal.
- R. pauciflorus, Wall., Nepal.
- R. rugosus, Sm., Peninsula, Mahabaleshwar.
- R. Wallichianus, W. and A., Peninsula.

Griffith says there is a species of rubus in the Tenasserim Provinces, and Wallich found one on the Irawadi.—*Roxb.* ii. p. 517; *Voigt*; *Mason*.

Rubus biflorus, Sm.

Ankren,	BEAS.	Karer,	RAVI.
Kantaneh,	CHENAB.	Bumbal, Insra, . . .	SUTLEJ.
Khariara,	"	Batang, Kalkalin, "	"

Common from 5000 to 10,500 feet up to the Indus in the Panjab Himalaya. It has a red-coloured, palatable fruit. Its stem is covered by a white pulverulent epidermal layer, looking as though whitewashed.

Rubus flavus, Ham.

Bramble, ENG. | Unari, PANJABI.
Punkana, Guracha, JHEL. | Akhi, Kimachi, . . . RAVI.

This yellow-fruited bramble is found in the Suttlej valley between Rampur and Sungnam, at an elevation of 5000 to 7000 feet up to near the Indus. The fruit is very pleasant, used for preserves.

Rubus fruticosus, Linn.

Akhi, BEAS. | Shall-dag-ganoh, KANGRA.
Huen-tiau-tasse, . . CHIN. | Unari, SUTLEJ.
Bramble, Blackberry, ENG. | Karwarai, . . . TR. INDUS.
Aliah, KANGRA.

Rubus fruticosus, like *R. idæus*, grows at Kaashmir, and in the N.W. Panjab from the plains up to 5000 feet, and in China in the Yang-tze valley. It has dark-purple fruit, used to make a preserve, on the hills.

Rubus gowrecephal, Rozb., Wild raspberry.

R. Indicus, Rottler. | Gowrecephal, . . . HIND.

A plant with small white flowers, grows in Ceylon, the Neigherries, Kamaon, Khasya, Assam, Taong Dong, common amongst the woods betwixt Hardwar and Srinuggur; also grows plentifully in Mysore and Wynaad.

Rubus idæus, Mount Ida bramble.

Fuh-pw'an-tso, . . CHIN. | Si-kwoh-tsau, . . CHIN.

This wild raspberry grows in Kan-su, Ho-nan, Shen-si, and Hu-peh. It is inferior to the cultivated plant. It is a native of woods in Europe from Norway and Sweden to Spain and Greece. It is found also in Asia on the Himalayas, in the north of Africa, and in America from Canada to Pennsylvania. It is found abundantly in almost every part of Great Britain and Ireland.

Rubus lasiocarpus, Sm., Country raspberry.

R. albescens, Rozb. | R. Mysorensis, Heyne.
R. racemosus, Rozb.
Gowrecephal, . . . DUKH. | Pukuna, . . . HIND.
Blackberry, . . . ENG. | Pakania, . . . KACHAN.

A plant of Neigherries, Mysore, Ceylon, the Himalaya up to 8000 feet, now cultivated generally in the Dekhan. It grows easily from seed; a few of the ripe fruit rubbed on a sheet of paper, and dried in the sun, will enable one to forward the seed to friends at any distance. The same with the strawberry. The plants should never be nearer than four or five feet, and may be cut down at the commencement of the rains, when they will throw out fresh shoots, and bear fruit in abundance. As it requires little care, and only an occasional supply of water, this bramble forms a very perfect and secure hedge to a kitchen garden. The finest fruit is very inferior to a common raspberry.

Rubus purpureus, Himalayan raspberry. Akhi of Kulu.

Rubus tiliacens, Sm., Pulla of Kangra. A black-fruited species, not uncommon from 4500 to 8500 feet, up to the Indus. The fruit is black, and not much prized.—Ainslie; Cleghorn; Eng. Cyc.; Honigberger; Riddell; Powell; Stewart; Voigt.

RUBY.

Yakut, ARAB, PERS. | Merah, Manikam, MALAY.
Rubin, DA, GER. SW. | Rubin, PORT., RUB.
Robijn, DUT. | Lanka-ratti, . . . SINGH.
Rubs, FB. | Kambu kallu, . . . TAM.
Lal, HIND., RUB. | Kempu lai, . . . TEL.
Rubino, IT.

The true oriental ruby, the sapphire, the topaz, and the emerald, though differing greatly in appearance, are chemically the same substance,

pure alumina; but jewellers give this name to several other minerals possessing brilliant red colour. The oriental ruby is the most valuable of all gems when of large size, good colour, and free from flaws. The ruby in colour varies from the highest rose tint to the deepest carmine, but the most valuable tint is that of pigeon's blood, a pure, deep, rich red, and generally occurs in 6-sided prisms.

The best come from India, Burma, and Ceylon; Bohemia furnishes an inferior article. They are found in Ava, Siam, the Cupelam mountains, ten days' journey from Syrian a city in Pegu, Ceylon, India, Borneo, Sumatra, on the Elbe, on the Espally in Auvergne, and Iser in Bohemia. The ruby and sapphire mines of Burma are 25 miles south of Moongmeet. Many of the rubies and other precious stones that the Shans bring with them in their annual caravan from the north of Burma, are made of rock-crystal, coloured artificially. These are heated and plunged into coloured solutions. Fine rubies have from time to time been discovered in many of the corundum localities of Southern India, associated with this gem, particularly in the gneiss at Viralmodes and Sholasingamany. It occurs also in the Trichingode taluk and at Mallapollaye, but it is, comparatively speaking, rare.

In Ceylon, at Badulla and Saffragam, and also, it is said, at Matura, rubies, sapphires, and topaz are found. Badakhshan has been famed since the time of Marco Polo as the country producing the true balas ruby. Its ruby mines are in the Gharan district, 20 miles from the small Tajak state of Ishkashm, on the right bank of the Oxus. They have not been worked since the Kunduz chief took Badakhshan. Irritated by their small yield, he marched the inhabitants of the district, 500 families, to Kunduz, where he sold them as slaves.

Of the accounts of the ruby mines of Burma, one was written by Père Giuseppe D'Amato, an Italian Jesuit missionary to Burma, a translation of which appeared in the Journal of the Asiatic Society of Bengal in 1833; and another account by Mr. Bredmeyer, who about 1870 was in charge of some minor ruby mines within 16 miles of Mandalay. The mines visited by Père D'Amato are said to be 60 or 70 miles distant from Ava in a north-east direction, and separated from the Irawadi valley by the Shoay-doung or Golden Mountain range, which are only occasionally visible from the town of Male, owing to the constant fogs and mists that hang around, and snow lies on them for four months of the year, beginning with the middle or end of November. They are situated north-east from Mandalay, and distant about 60 or 70 miles. The principal road to them leaves the Irawadi at Tainguh-Myo, and passes through Shuemale. There are other roads, from Tsampaynago and other villages to the north. The mines lie nearly due east from the village. The villages in the immediate neighbourhood of the mines are Kyatpen, Mogouk, and Katherywa. The gems are procured over an area of probably 100 square miles. The mode of seeking for them is simply sinking pits until the gem-bed or ruby earth is met with; this is then raised to the surface and washed. The gem-bed is met with at various depths, sometimes not more than two or three feet from the surface, and occasionally not at all.

When the layer of earthy sand containing the rubies is met, lateral shafts are driven in on it, and the bed followed up, until it either becomes necessary to sink another pit in it, or it becomes exhausted. It varies in thickness from a few inches to two or three feet. The rubies are, for the most part, small, not averaging more than a quarter of a rati, and when large are generally full of flaws. Well-marked crystals occasionally occur, but the vast majority of stones are well rounded and ground down. It is very rare to find a large ruby without flaws; and Mr. Spears states that he had never seen a perfect ruby weighing more than half a rupee. The same authority mentions that sapphires are also found in the same earth with the rubies, but are much more rare, and are generally found of a larger size. Stones of ten or fifteen rati without a flaw are common, whereas a perfect ruby of that size is hardly ever seen. The largest perfect sapphire he ever saw weighed one tikal. It was polished, but he has seen a rough one weighing 25 tikal. For every 500 rubies, he does not think they get one sapphire. You see very small sapphires in the market, while small rubies are abundant and cheap. The value of the gems, rubies, and sapphires obtained in a year may be from £12,500 to £15,000. They are considered the sole property of the king, and strictly monopolized, but, notwithstanding the care that is taken, considerable quantities are smuggled. There are about 20 lapidaries or polishers of these stones at Amarapura; they are not allowed to carry on their trade at the mines. For polishing, small rubies and worthless pebbles brought from the mines, being pounded fine and mixed up with an adhesive substance, and then made into cakes some ten inches long by four broad, are employed to rub down the gem. After it has been brought to the form and size required, another stone of finer grain is employed. The final process is performed by rubbing the ruby on a plate of copper or brass until it is thoroughly polished, when the gem is ready for the market. Rubies of Burma are not exported to any large extent, and then only stones of inferior value. But a pink spar found in the ruby district is a more important item of export. It is believed to be used for one of the classes of distinctive mandarin cap-knobs. Great numbers of these gems are brought down to Rangoon for sale, but a heavy price is always demanded for them, and it requires an experienced eye to purchase them with a view to profit. Topazes are also found in the vicinity of the rubies and sapphires, but they are scarce, and fetch a higher price in Burma than they would realize in England. Recently, rubies and sapphires have been found in Siam, about four days' journey from Bangkok, in a very feverish locality. The stones, though inferior to those obtained in Upper Burma, are said by the Burmese to be so plentiful near Bangkok, that even women are anxious to proceed to the mines. Ceylon ruby is a term applied in England to the garnets and carbuncles which come from Siam through Ceylon, and also to peculiar tinted almandines. The stones are of a rich red tinged with yellow. They are superior to those of the mine of Zobletz in Silesia, from the Tyrol, and from Hungary. Under the designation Ceylon rubies, jewellers obtain a large price for them from the ignorant. A stone of a

fine rich tint, free from flaws, of a certain size, will range from £8 to £10.

Balas ruby is a term used by lapidaries to designate the rose-red varieties of spinel. Spinel is seen of all shades,—blood red, the proper spinel ruby; rose red, the balas ruby; orange or red rubicelle; and violet-coloured or almandine ruby.

Red tourmaline is sometimes mistaken for the ruby, and the pink topaz for the balas ruby. Spinel and balas rubies are found in Ceylon, Ava, Mysore, Baluchistan; the spinel ruby is comparatively of little value, but they are often sold for a true ruby, and the true ruby is occasionally parted with as a spinel ruby.

Tavernier gives the figures of a ruby that belonged to the king of Persia. It was in shape and bigness like an egg, bored through in the middle, deep coloured, fair, and clean, except one flaw in the side. They would not tell what it cost, nor what it weighed; only it had been several years in the treasury. He likewise gives the figure of a balas ruby, sold for such to Giafer Khan, uncle of the Great Moghul, who paid 9,50,000 rupees = 1,425,000 livres for it. But an old Indian jeweller affirming afterwards that it was no balas ruby, that it was not worth above 500 rupees, and that Giafer Khan was cheated, and his opinion being confirmed by Shah Jahan, the most skilful in jewels of any person in the empire, Aurangzeb compelled the merchant to take it again, and to restore the money back. Tavernier gives also the figure of a ruby belonging to the king of Visapur. It weighed fourteen mangelin, or seventeen carats and a half, a Visapur mangelin being but five grains. It cost the king 14,200 new pagodas or 74,500 livres. Also, he figures a ruby that a Banya showed him at Benares; it weighed 58 rati or 50½ carat, being of the second rank in beauty, in shape like a plump almond bored through the end. He offered 40,000 rupees or 6000 livres for it, but the merchant demanded 55,000 rupees.

The largest oriental ruby known was brought from China to Prince Gargarin, governor of Siberia; it afterwards came into possession of Prince Menzikoff, and now constitutes a jewel in the imperial crown of Russia.—*Eng. Cyc.; King*, p. 56; *Emmanuel; Tavernier's Tr.* p. 149; *Ainslie, Cal. Cat. Exh.*, 1802; *Newbold in Madr. J. L. and Sc.; Mason; Ferrier's Jour.; Davy's Ceylon*.

RUDHI, also Vriddhi, TEL., are two different names of the ashta varga or eight roots, celebrated in the Indian Materia Medica. They are only from Nepal or Northern India, and have never been identified.—*As. Res.* xiii. 410.

RUDIKI, about the close of the 9th century, translated the fables of the Pancha-Tantra of Bed-pai from Arabic into Persian, and received 80,000 dirhans for his labours. He was a celebrated poet. See Abul Hasan.

RUDOK, a district in the neighbourhood of Lake Tso Mognalari, lat. 33° N., and long. 80° E.

RUDRA, in the Rig Veda, is spoken of as an inferior god, the god of storms, from Rud, to cry; one of a kind of semi-divine beings (eight in number), who, in the Vedic ages of Hindu mythology, were connected with the worship of Vayu or the wind. Brahmanical Hinduism considers Rudra to have been the god Siva, and he is first called Mahadeva in the White Yajur Veda; and the Vishnu Purana says the god Rudra sprang from

the forehead of Brahma, and multiplied himself. Eight Rudra enumerated in the Vishnu Purana are—Rudra, Bhava, Sarva, Isana, Pasupati, Bhima, Ugra, Mahadeva, most of which are regarded now as merely other appellations for Siva. Brahma is fabled to have assigned to them as their respective stations, the sun, water, earth, air, fire, ether, the ministering Brahman, and the moon. These are their types or representatives in this world. In other places the Rudra are described as eleven in number, and as children of Kasyapa and Surabhi.—*Williams*, p. 40; *Vishnu Purana*, p. 58.

RUDRA BHATTA, author of Sringara Tilaka, the mark of love, on the emotions and sentiments of lovers, as exhibited in poetry and the drama.—*Dowson*.

RUDRA BHUMI. TEL. The place of incrementation of deceased Hindus.

RUDRAKSHA, the fruit of the *Elaeocarpus tuberculatus*, also of *E. ganitrus*, made into a rosary, and worn by the Saiva Hindus.

RUDRA PRAYAG, a temple in the Garhwal district of the N.W. Provinces of India. It is at the junction of the Alaknanda with the Mandakini, which drains the southern slopes of the Kedarnath and Badarinath peaks. It is one of the five sacred prayag or confluences of the Hindus, and a halting-place for pilgrims to Himachal. A dome-shaped rock, 30 feet in height by 16 in diameter, bears the name of Bhim-ka-chūlha, or the kitchen of Bhim, a famous giant of Hindu mythology. It is completely excavated, and has apertures at the top, where they believe that Bhim used to place his cooking utensils.—*Imp. Gaz.* viii.

RUDRA SAMPRADAYI, a sect of Vaishnava Hindus, founded by Vallabhacharya, who originated the worship of Bala Gopala, the infant Krishna. This worship is very widely diffused amongst all ranks of Indian society, but is perhaps best known as the religion of the Gokalaatha Gossains, the title of its teachers. Vallabha was the son of a Telinga Brahman. He taught that privation was not sanctity, and that it was the duty of the teacher and his disciples to worship their deity, not in nudity and hunger, but in costly apparel and choice food; not in solitude and mortification, but in the pleasures of society and the enjoyment of the world. The gossains or teachers, like Vallabha, are always married men, always clothed with the best raiment, and fed with the daintiest viands by their followers, over whom they have unlimited influence. The followers of the order are especially numerous amongst the mercantile community, and gossains are constantly travelling over India under the pretence of pilgrimage, but reconcile to themselves on these occasions the profits of trade with the benefits of devotion. Zealous disciples devote to the guru the threefold Samarpana, Tan, Man, Dhan, or body, mind, and wealth. The temples and houses of the sect have metal, often gold, images of Gopal, of Krishna, and Radha, and other divine forms connected with the incarnation. The idol is richly decorated and sedulously attended in daily ceremonies. Besides their public demonstrations of respect, this sect keep pictures and images of Gopal in their houses; and before sitting down to any of their meals, they take care to offer a portion to the idol. Those of the disciples who have performed the triple Samarpana, eat only

from the hands of each other; and the wife or child that has not exhibited the same mark of devotion, can neither cook for such a disciple nor eat in his society. Vitala Nat'h, the son and successor of Vallabha, had seven sons, all of whom were teachers, and their followers, though in all essential points the same, form separate communities. Those of Gokalnath, however, look on their own gossains as the only legitimate teachers of the faith. The worshippers of this sect are very numerous and opulent, the merchants and bankers, especially those from Gujerat and Malwa, belonging to it. Their temples and establishments are numerous all over India, but particularly at Muttra, and many hundreds at Bindraban. But at Sri Nat'h Dwar, at Ajmir, is the most celebrated, most highly venerated, and most richly endowed of all the gossain establishments. It is a matter of obligation with members of this sect to visit Sri Nat'h Dwar at least once in their lives, and the head gossain presents them with a certificate to that effect. The indecent and immoral character of this sect was notoriously brought before the public of India in a trial for libel instituted in 1862, at Bombay, by one of the teachers of the sect, and known as the 'Maharaja case.' It was shown by the evidence then adduced that the women of the wealthiest of this sect deemed it an honour to receive their priest's attentions, for which the priest withdrew with the woman of his selection, selected in the midst of and from amidst hundreds of her fellow-worshippers, and it was also in evidence that the maharaja allowed people to see him associating with his selection. In 1868, in Bombay, during the holi, indecent pantomimes were shown by this sect before a concourse of men and women. It is the Banya and Bhattya races who chiefly support this sect.—*Rev. Dr. Wilson; Times of India*.

RUDRAYA-MALA and Jati-mala, a book containing an enumeration of castes and professions.

RUE, Ruta. IT., LAT.
Rute, . . . GER. | Ruta, . . . SP.
Sadab, Saturi, . . . HIND. | Arooda, . . . TAM.

In India, this name is given to the herbs of *Ruta angustifolia*, *R. graveolens*, and *R. Indica*. *R. graveolens*, an evergreen shrub, grows freely in any good soil, propagated by cuttings in damp weather, used for fowls in the roup. Leaves dried and burnt are much used in Southern India for the purpose of fumigating young children suffering from catarrh; also used fresh, bruised and mixed with arrack, as an external remedy in the first stages of paralytic affections. When dried in the shade and powdered, the vytiens prescribe this substance in conjunction with certain aromatics in cases of dyspepsia; they entertain the same notion regarding it that Dioscorides did of old, viz. that it is inimical to the fœtus in utero when given together with camphor and the sugar of the palmyra toddy. In making confection of rue, the herb of dried rue, the sadab of the bazars of N.W. India, may be substituted.—*Jaffrey; Ains.; O'Sh.; Beng. Phar.*

RUELLIA, a genus of plants of the natural order Acanthaceæ. From one wild species, called in Assam Room, a very valuable dye is prepared after the manner of indigo. This plant (or a species very nearly allied to it) is also cultivated with the same object in all parts of Burma, under the name of Mai-gyee. It is believed that the

room contains indigo allied to that produced by species of *Isatis* and *Wrightia*. The source of this dye has been referred to *Ruellia comosa*, also to *R. indigotica*. That produced at the hills occupied by the Murree and Dofia tribes of North Assam, and produced at the hills occupied by the Mishmi and Abor tribes, Suddiya, Luckimpore, Upper Assam, is of value R. 1½ per lb. The room is employed in its raw state by the Khamti and Singpho to dye their clothes of a deep blue. It was described by Griffiths as a valuable dye, and highly worthy of attention. It might perhaps be usefully employed as the ground for black dye. *Ruellia cernua*, Roxb., grows in Mysore; *R. comosa*, Roxb., is a plant of the Moluccas; *R. hirta*, Vahl, grows in Telingana; *R. indigofera*, Griff., is the Mai-gyee of the Burmese.—*Roxburgh; Voigt; Wall; Hooker.*

RUELLIA INDIGOTICA. *Fortune.* The Room of Assam and Tien-ching of China. In one part of the Che-kiang province of China, and also amongst the Fung Hwa mountains to the westward of Ningpo, large quantities of a blue dye are produced, which is, in fact, the indigo of that part of the country. *Fortune* (*Wanderings*, 1846) gives an account of a valuable kind of indigo, made from a species of woad (*Isatis indigotica*), which is cultivated extensively in the level country a few miles to the westward of Shanghai. The kind in Che-kiang is equally valuable, if not more so. It is made from a species of *Ruellia*, which until it gets a better name may be called *Ruellia indigotica*. The same plant apparently has been discovered in the Assam country in India, where it is also cultivated for the blue dye it affords; alongside of the Chinese kind, they bear a most striking resemblance. This *Ruellia* seems to be easily cultivated, it grows most luxuriantly, and is no doubt very productive. In the province of Che-kiang it is planted, in the highland valleys, in the end of April or beginning of May, after the spring frosts are over, and is cleared from the ground in October before those of autumn make their appearance. During this period it attains a height of a foot or a foot and a half, becomes very bushy, and is densely covered with large green leaves. When the stems are cut down for the manufacture of indigo, a sufficient quantity have their leaves stripped off, and are afterwards taken into a house or shed to be properly prepared. The leaves thus stripped from the cuttings are thrown into the tanks with the stems and leaves, so that nothing is saved except what is actually required for the purposes of propagation. The stems are now tied up firmly in large bundles, each containing upwards of 100, and the ends of each bundle are cut across, so as to leave them perfectly neat and even both at top and bottom. These bundles are each about a foot long, and, of course, nearly round. They are carried to a dry shed or outhouse, where they are packed closely and firmly together, and banked round with very dry loam. A portion of the dry soil is also shaken in between the bundles, and this being done the operation is complete. Should the winter prove unusually severe, a little dry straw or litter is thrown over the surface of the cuttings, but nothing else is required. During the winter months, the cuttings remain green and plump; and although no leaves are produced, a few roots are generally found formed, or in the

act of forming, when the winter has passed and the season for planting has come round. In this state they are taken to the fields and planted. The weather during the planting season is generally showery, as this happens about the change of the monsoon, when the air is charged with moisture. A few days of this warm showery weather is sufficient to establish the new crop, which now goes on growing with luxuriance, and requires little attention during the summer; indeed none, except keeping the land free from weeds. In the district where this dye plant is grown, there are numerous pits or tanks on the edges of the fields. These are usually circular in form; one measured eleven feet in diameter and two feet in depth. About 400 catties of stems and leaves are thrown into a tank of this size, which is then filled to the brim with clear water. In five days the plants are partially decomposed, and the water has become lightish green in colour. At this period the whole of the stems and leaves are removed from the tank with a flat-headed broom made of bamboo twigs, and an admirable instrument for the purpose. When every particle has been removed, the workmen employed give the water a circular and rapid motion with the brooms just noticed, which is continued for some time. During this part of the operation another man has employed himself in mixing about thirty catties of lime with water, which has been taken out of the tank for the purpose. This is now thrown into the tank, and the rapid circular motion of the water is kept up for a few minutes longer. When the lime and water have been well mixed in this way, the circular motion is allowed to cease. Four men now station themselves round the tank, and commence beating the water with bamboo rakes made for this purpose. The beating process is a very gentle one; as it goes on the water gradually changes from a greenish hue to a dingy yellow, while the froth becomes of a beautiful bright blue. During the process the head workman takes a pailful of the liquid out of the tank, and beats rapidly with his hand. Under this operation it changes colour at once, and its value is judged of by the hue it presents. The beating process generally lasts for about half an hour. At the end of this time the whole of the surface of the tank is covered with a thick coating of froth of the most brilliant colours, in which blue predominates, particularly near the edges. At this stage, it being desirable to incorporate the froth with the liquid below it, there is made a most beautiful chemical operation. A very small portion of cabbage oil, only a few drops, is thrown on the surface of the froth, the workmen then stir and beat it gently with their flat brooms for a second or two, and the whole disappears as if by some enchanter's wand. So small a quantity of oil is necessary for this purpose, that even when the cup has been emptied, and has only the oil that is necessarily adhering to its edges, it is thrown into another tank, and produces the desired effect. The liquid, which is now darker in colour, is allowed to stand quiet for some hours, until the colouring matter has sunk to the lower stratum, when about two-thirds of the surface is drawn off and thrown away. The remaining third part is then drawn into a small square tank on a lower level, which is thatched over with straw, and here it remains for three or four days. By this time

the colouring matter has separated itself from the water, which is now entirely drained off, the dye occupying three or four inches of the bottom, in the form of a thick paste, and of a beautiful blue colour. In this state it is packed in baskets, and exposed for sale in all the country towns in that part of China, at rates varying from 50 to 100 cash a catty, say from 2d. to 4d. per lb. Some is sold as low as 30 cash, but this is very inferior; the greater part produced is sold at from 60 to 80 cash a catty, and it must be of a very superior quality if 100 cash is paid. Like the Shanghai indigo made from *Isatis indigotica*, it is called Tien-ching by Chinese. During the season of its preparation every mountain stream is coloured and polluted with the refuse liquid drawn off from the tanks, and the stench which fills the air is almost unendurable.—*Fortune's Residence*, p. 189; *Fortune's Wanderings*.

RUELLIA RINGENS. *Linn.* Upu-dala, MAL. The juice of the leaves of this plant, boiled with a little salt, is supposed, on the Malabar coast, to correct a depraved state of the humours. *Ruellia intrusa*, *Vahl*, *R. secunda*, *Vahl*, *R. Zeylanica*, *Roxb.*, are syns. of *Asystasia Coromandeliana*.—*Nees*.

RUELLIA STREPENS. *Ainslie*. *Grœdio tagarum*, *SANSK.* Kirendinyagum, . TAM. The small purple-coloured leaves and berries of this low-growing plant are sub-acid and bitterish to the taste. When bruised and mixed with castor-oil, they form a valuable application in cases of children's carpang.—*Ains.*; *Rheede's Hort. Malabar*.

RUG, this kind of carpet is in extensive use for the carpeting of rooms and for individual use throughout all Central and Southern Asia, those of cotton being usually styled Bisat, Shatranji, and Dhurri, and the woollen fabrics Gallicha. The dhurri or dharri of Shahabad are made wholly of cotton, and almost invariably striped. They are cool and pleasant, and are in invariable use by the richer natives of India, and by all Europeans. The smaller kinds are used as quilts for beds, and European soldiers use them for that purpose. The manufacturers are called Kallecun Bap, and are almost invariably Muhammadans, who make carpets of any size and pattern given, and also in stripes. The two local seats of manufacture in Shahabad are Bubbooh and Sasseram. In the former place, from Rs. 10,000 to 12,000 worth are yearly manufactured and sold, and in the latter from Rs. 30,000 to 40,000. The dhurris generally made for sale are either 6 yards long and 2 yards broad, thick, and strong, of any colour, sold at from Rs. 6 to 6.8 each, or a small kind used as quilts, or to spread in lieu of any other bedding on the ground. They weigh from 2 to 3 lbs. each, and are 1½ to 1½ yards broad, by about 2 yards long; they sell at from 14 annas to 1 rupee 8 annas each, according to thickness and quality.

The Haushassica is a better kind of carpet, and often displays much taste in the arrangement of the striped colours. It is made of any size to fit any room, and is always sold by weight. The price varies according to quality from Rs. 1.4 to 1.12, and sometimes as high as Rs. 2.4 per seer. It is sold in all the fairs and in all the large cities around, and no merchant or banker's shop, and no rich native's reception room, is com-

plete without these being spread. This kind is generally used by Europeans for their drawing and public rooms.

The Dhurri panch rangha is a small kind for use in small cutcherries, and much used from its portability. It is from 3 to 4 yards long, and from 1½ to 2 yards broad, and sells at from Rs. 3 to 4 each carpet.

Gallicha carpets are almost always woollen, of florid but neat patterns, in imitation of the Persian carpet. They are used to a considerable extent by the rich natives in their zananas, and by Europeans also. The size usually manufactured is 2 yards long by 1 yard broad, and they sell at from Rs. 2 to 4.8 per carpet. Any other sizes and patterns can be made, and some of the patterns are extremely pretty. The wool costs but little; the coarse local wools, which would not pay for exportation, answer for carpet work, and the native dyes answer admirably. The colours are harmonious. A principal site of the manufacture of the woollen rugs was long the town of Ellore, but they are made in the Dekhan and in Mysore, of any size, to order. They are usually 3 feet broad and 6 feet long, and much used as sleeping rugs, and rugs for the drawing-room. They have been exported largely to Europe, where they are employed as hearth-rugs; they are of various colours, prettily arranged, and sell at from Rs. 4 to 14, according to size. With some felted rugs the patterns are produced by laying on the coloured wools and felting them into the substance of the carpet.

Serviceable and cheap woollen rugs and very substantial cotton rugs can be got at Multan. Many carpets are made at the jails at Lahore, Agra, Allahabad, Bhagalpur, Tanua, and Mirzapore. Warangal was long famous for its silk carpets, and the harmony of colours and speciality of pattern are notable. The woollen carpets from the same place are also peculiar. The craftsmen at Warangal claim Persian descent, and their patterns seem to be of Persian origin.

RUGTBORA, in the Bombay side of India, a vernacular name of several plants, the *Tecoma undulata*, *Don*; *Rhamnus Wightii*; *Soymda febrifuga*; *Maba nigrescens*, *Dalz.*; and *Polygonum glabrum*.

RUH. ARAB. The spirit, the soul, the countenance. *Ruh Allah*, the spirit of God, Jesus Christ. *Ruh-ul-Qadas*, the Holy Spirit, supposed to mean the angel Gabriel, whom Muhammadans call also *Ruh-ul-Amin*, the faithful spirit. *Ruh-i-sifin* is lower spirit; *Ruh-i-Jari*, travelling spirit; *Ruh-i-Moqeen*, a resident spirit; *Ruh-i-Aowlee*, the lofty spirit.

RUKAIAH BEGUM, Akbar's first wife. She died at 84 years of age, about a year and a half before Jahangir's death.—*Cal. Rev.*, Jan. 1871.

RUKCHU, in lat. 33° 14' N., long. 77° 50' E., in Ladakh, a pasture ground in an old lake basin between the Lacha Lung and the Takelang pass. The mean height of the lake basin is 15,764 feet above the sea. *Rukchu* is the most elevated district of Ladakh, and one of the loftiest inhabited regions of the known world, the mean height of its plains being 15,634 feet.—*Schl.*

RUK-HARA, a Saiva religious sect of mendicants, similar to the Ukharas, but do not carry a stick nor wear the Rudraksha ear-rings, but in their place metallic ones. See Ukharas.

RUKHENG, the name given to the language of Arakan.

RUKMINI, the only lawful wife of Krishna. According to the Harivansa, Rukmini was the daughter of Bhishmaka, king of Kuntina, and was solicited in marriage by Krishna, of whom she was enamoured; but the son of Bhishma, Rukmi, jealous of Krishna's fame, and being incensed by the death of Kansa, his friend, was hostile to the match, and negotiated his sister's marriage with Sisupala, king of Chedi, likewise inimically disposed towards Krishna. All the kings of India were invited to the wedding, and amongst them came Krishna, who, seeing Rukmini proceed to offer her devotions at a temple, way-laid her on her return, and, with the assistance of his brother Bala Rama and his kinsmen, carried her off to Dwaraka. A hot pursuit followed, and an engagement took place, in which Rukmi was struck to the ground by Kesava, but his life was spared at his sister's intercession, and Krishna remained possessed of his prize. The marriage was solemnized at Dwaraka, and Rukmini remained the chief of Krishna's wives. He had ten sons by her, of whom Pradyumna is the most celebrated. The rape of Rukmini is also narrated nearly in the same words as in the Harivansa, in the 5th section of the Vishnu Purana, and more in detail in the tenth book of the Bhagavat, and in the Krishna Janma Khanda of the Brahma Vaivarta Purana.—*Cal. Rev.* p. 41; *Hind. Theat.* ii. p. 82.

RUKNABAD, a brook near Shiraz, celebrated by Hafiz. It is an insignificant stream.

RUKSAT. ARAB., HIND., PERS. Dismissal of a visitor; permission to depart; the Muhammadan etiquette being for a visitor to await dismissal, on the principle that he came at his own pleasure, but should await his host's time to depart.

RUKU. ARAB. Plural, Rukat, prostrations in Muhammadan prayer ritual; the stooping posture in prayer. Ruku-ki-tasbeeh, beads held in the hand at prayers. In Muhammadan ritual, reading or repeating a number of prayers from the Koran, accompanied with prostrations and genuflections. Rukat dogana, two rukut prayers.

RUM, a spirit distilled from the sugar-cane. The best is made from molasses, and it is preferred when well kept, of good age, considerable body, smooth oily taste, and a brownish transparent colour. Bengal, the West India Islands, and Guiana are the countries chiefly distinguished for the produce of rum.—*Faulkner*.

RUM or Room. The Persians designate Asia Minor by this term. The Muhammadans of India apply it to the Turkish dominions generally, also to Constantinople. Kaiser-i-Rum, the 'Cæsar of Rome,' always meant the Byzantine emperor, and the title was transferred to the Turkish Sultan.

RUMAL, a pocket-handkerchief (Ruh, the face, Mal, wipe); also a square shawl, used as veils in Peahawur by women. The term applies to any handkerchief, the soft silk one of Bokhara, etc., and to square shawls. A rumal is used in the place of a turban by all the poorer natives of India.

RUMEX ACETOSA. *Linn.* Sorrel. Swan-mo, . . . CHIN.; Chuka, Kautli, HIND.

It is found in the Sutlej valley between Rampur and Sungnam at an elevation of 6000 to 8000 feet, also in Kaghan. It is widely distributed.

It is cultivated in Ajmir; the seed is considered cooling and astringent.

Rumex Alpinus (Swan-mo, CHIN.), or Monk's rhubarb, is found on the European Alps, the Crimea, and Mount Caucasus. The roots are large and purgative like rhubarb, and the whole plant so resembles the rheum that Linnæus himself mistook one for the other.

Rumex dentatus, *W.*, is the Gul-Hamaz of Persia; *R. hydrolapathum*, *Smith*, is the Chinese Yang-ti and Ye-ta-hwang; and *R. undulatus*, *Royle*, is the Hamaz or Pulki. One species is known to Europeans as Indian red sorrel. From the decoctions of the dried roots of various sorts of sorrel, by the addition of alum, a fine red colour can be obtained at a low price, and valuable to painters.

Rumex obtusifolius vegetates in Kashmir, and is eaten by the natives. Its root, under the name of Radix spathiacuti, was formerly used as a purifier of the blood in chronic cutaneous diseases, but is now obsolete both in India and in Europe; its active principle, Lapatin, must, however, have peculiar properties.

Rumex vesicarius, *Willde.*

Hamaz,	ARAB.	Tursha, Hamas, . .	PERS.
Humbæjt,	EGYPT.	Shutavedhi, . . .	SANSK.
Sorrel, Bladderdock, ENG.		Suri,	SINGH.
Chuka, Chok, . . .	HIND.	Sukh gu kire, . .	TAM.
Chuko,	"	Sukan kire, . . .	"

Cultivated for greens, etc., but it grows plentifully about Madras in the fields during the rains. It has obtained the name of sorrel from the British in India, owing to its great resemblance to the Rumex acetosa in taste and other natural qualities. It is an article of diet, and is considered by the natives as cooling and aperient. This, where water is abundant, may be had for eight months in the year; it is sown in drills, or on the edges around other beds; the leaves are sold in bundles from one to two pice a seer.—*Cleghorn; Irvine; O'Sh.; Riddell; Ains.; Honig.* p. 338.

RUMI KHAN, a Turk of Constantinople, who was commandant of the artillery of Bahadur Shah of Gujerat. He afterwards served under Humayun at the siege of Chunar, which he conducted. The Portuguese early endeavoured to obtain possession of Diu. Their first effort was defeated by Rumi Khan, commander of the Gujerat army. In 1535, however, Bahadur Shah of Gujerat permitted them to erect a fortress there. It was completed in 1538, from which time the Portuguese became the terror of the sea, and were able to resist the efforts made to subdue them by the emperor of Turkey, the kings of Bijapur and Ahmadnagpur, and the Zamorin of Calicut. He afterwards served under the Nizam Shah dynasty at Ahmadnagpur, and is buried there. He cast there the great gun now on the ramparts of Bijapur.

RUMINANTIA, the ruminants or ruminating animals, such as camels, deer, horned cattle, and sheep. The ruminants are a tribe of mammals of the order Ungulata, which comprise the families Bovidæ and Cervidæ, &c.

RUMPA, a tract of country situated on a part of the northern frontier of the Rajamundry district. It is very thinly populated, wild, and mountainous, and the climate during most part of the year unhealthy. It formed part of the old Kottapille taluk, which, under the new territorial arrangement of the district, was included under

Rajamundry, with a sub-magistrate, however, resident not far from the Rumpu border.

RUMPH, GEORGE EVERHARD, native of Hanau in Hesse Cassel, was born in 1626, and died in Amboyna in 1693. He studied medicine, and went to Batavia when 28 years old, and entered the service of the Dutch East India Company at Amboyna, where he passed the remainder of his life. At the age of 42, when contemplating a visit to his native country, he suddenly became blind, and therefore never left his island home. But he continued to prosecute his favourite studies in natural history till his death in 1693, when he had attained the age of 67. His great work on the shells of Amboyna was not published till 1705. His chief work, however, was the *Hortus Amboinense*, which was only rescued from the Dutch archives and published some years after his death. *D'Amboinische Raritetkammer*, fol. 1705, has passed through several editions. It has never been translated into English. It contains all connected with the plants of that region. Drs Hooker and Thomson say that having become blind, he obtained the assistance of some young men in completing the work, and translated the descriptions into Dutch; it was finished in 1690. The manuscript remained upwards of thirty years in the possession of the Dutch East India Company, but was at length rescued from oblivion by Professor John Burmann of Amsterdam, who edited it between the years 1741 and 1754, and illustrated it with several remarks and synonyms, besides giving a translation into Latin, for Rumphius' original one appears to have been lost. This work consists of six volumes, with a supplemental or seventh one not published till 1757, and contains 696 plates, representing more than twice that number of plants. The plates are much less valuable than those of Rheede, but the descriptions, on the contrary, are much superior. A most elaborate commentary on the *Herbarium Amboinense* was commenced by the late Dr. Francis Buchanan Hamilton in the *Transactions of the Wernerian Society of Edinburgh*; what is printed only extends to the middle of the second volume, but the remainder of the manuscript was presented to the Society before his death. He had at the same time prepared a commentary on the *Hortus Malabaricus* of Van Rheede, which is in the possession of the Linnaean Society of London; that on the four first volumes is all which has yet appeared in their *Transactions*.—*Wight's Prodrum* Fl. i. p. 8.

RUNDUR or Kyampo, lawless tribes of robbers in the middle districts of Tibet.

RUNGIA REPENS. *Nees*.

Justicia repens, Linn. [*Dicliptera repens*, R. et S.
Dicliptera retusa, Juss. Kadag saleh, TAM.

A plant used in medicine growing in Peninsular India. Its leaves resemble those of thyme in taste and appearance. *R. parviflora*, Nees, also grows throughout British India.

RUNN, a flat tract lying between Sind and Cutch, which is inundated with brackish water during the three monsoon months, and is covered by salt incrustations when dry. Salt is manufactured on it at Janjorra and Patri. The Runn or Rin is a remarkable feature of the Rajputana desert. It is 150 miles broad; into it the Loni or Looni or salt river enters, and then runs on to the sea. The Looni rises in the Aravalli, and

in Marwar it separates the fertile land from the desert, afterwards runs through the Ohohan territory, dividing it into the eastern part called Raj-Bah or Sooi-Bah, and the western part called Park'har or 'beyond the Khar or Looni.'

The word Runn or Rin is a corruption of Aranya, or 'the waste;' nor can anything in nature be more dreary in the dry weather than this parched desert of salt and mud, the peculiar abode of the khar or wild aas, whose love of solitude has been commemorated in Job. That this enormous depository of salt is of no recent formation, we are informed by the Greek writers, whose notice it did not escape, and who have preserved in Erinos a nearer approximation to the original Aranya than exists in our 'Rin' or 'Runn.' Although mainly indebted for its salt to the Looni, whose bed and that of its feeders are covered with saline deposits, it is also supplied by the overflowings of the Indus, to which grand stream it may be indebted for its volume of water.

The Runn of Cutch has been subjected to repeated upheavals and depressions within even historic times. A vast space from the Indus eastward, which is now dry land, was, in the time of Alexander, covered by the waves. The ruins of Balabhipura, near Bhownagar, are 10 to 15 feet below the surface of the soil. On the 16th June 1819, the Runn was partly submerged during an earthquake, and is now in part a lake and in part a salt-water marsh.

North of the Runn, in the collectorate of Ahmadabad, are the Null and Boho, two hollows some distance apart, containing salt water, which they receive from rivulets, but give off none.

The Runn extends from the Indus to the western confines of Gujerat, a distance of full 200 miles. In breadth, from the islands, it is about 35 miles, and, taking into consideration its different belts, its area, exclusive of the elevated tracts called Bunni and the islands, is about 7000 square miles; including Bunni and the islands of Pacham, Khuren, etc., it is 9000 square miles. It is a dry, sandy flat, without herbage, and during a great part of the year a few tamarisk bushes alone are seen on it. Fresh water is only to be had on its islets. The mirage is there witnessed in all its surprising beauty. So long as the sun shines, the Runn resembles a vast expanse of water, which only those accustomed to it can distinguish from the reality. Its islands are Carir and Pacham. Bunni, south of Pacham, is a tract of grass land. Lieut. M'Murdo, writing in 1815, and Lieut. Burnes, writing shortly afterwards, pointed out that the Runn had formerly been an inland sea; and about the middle of the 18th century a vessel was found at Wawania sunk 15 feet deep in the mud.

During the S.W. monsoon, water is driven up its eastern inlet from the Gulf of Cutch, and up the eastern branch of the Indus, and covers its whole surface, augmented by the freshes which come down the Looni and Banas rivers.

The Runn of Cutch is called the Great Runn. The Small Runn commences near the Great Runn in the N.E., and continues to the Gulf of Cambay, and in the N.W. a narrow Runn separates the district of Okhamandul from the rest of the peninsula of Kattyawar, connected only by a narrow bank of sand at Mudhe.—*Jod's Rajasthan*;

Memoirs of Lieut. M'Murdo, 1815; Lieut. Burnes, 1827-28; Captain Grant, Geol. of Cutch; Capt. G. Le Grand Jacob.

RUPA, author of *Vidaydha Madhava*, a drama in seven acts on the loves of Krishna and Radha, written A.D. 1638.

RUPA. HIND. Silver, but generally means alloyed silver, debased by the addition of copper or zinc, or both.

RUPA-MATI was born at Sarungpur, a town in Malwa, 55 miles N.E. of Ujjain and 80 miles west of Bhilsa. Malcolm describes her as a dancing girl, and famed more for her good sense than her beauty. Malwa, for a short time in the middle of the 16th century, became independent under Baz Bahadur, and he made Rupa-mati one of his wives, and they passed through seven years of great happiness, hawking in the day, with poetry and music at night. But in A.D. 1560 Akbar sent Adam Khan to re-occupy Malwa, and Baz Bahadur, deserted by his soldiers, fled. Rupa-mati destroyed herself by poison or the dagger. Her songs are in the Hindi dialect of Malwa. Their style is simple and natural, and are the outpourings of a fervent heart, and many of them are still sung by professional songsters and musicians all over the province of Malwa. She had more than a common share of the poet's power.—*Tr. of Hind. ii. p. 198.*

RUPAR, a municipal town in the Ambala district of the Panjab, in lat. 30° 57' N., and long. 76° 33' E.; pop. (1868), 8700. The Sirhind canal draws its waters from the Sutlej at this point. A Muhammadan fair is held at the tomb of Shah Khalid, in the month of Jaisltha, attracting 50,000 persons; and another fair at a Hindu bathing festival on the banks of the Sutlej.—*Imp. Gaz. vol. viii.*

RUPA SIDDHI, a work by Buddha Priya. See Pali.

RUPEE, a coin of India, value under 2s. The Sicca rupee, the Madras or Arcot rupee, and the Bombay rupee, have been displaced from British India by the Indian rupee of 1835. The following are the assay reports of Shah Jahan, Multani, Kābuli, and Duraniwall rupees:—

Description of Coin.	Weight.	Touch.	Pure Metal.	Value of 100 in Company's Rupees.
	Gr. Dec.	P. c. Dec.	Gr. Dec.	Rs. Dec.
Shah Jahan, . . .	177 15	97 76	173 181	104 958
Multani, . . .	171 89	94 90	163 123	98 802
Kābuli, . . .	144 80	93 63	135 576	82 167
Duraniwall, . .	145 17	78 30	113 668	68 889

The weight and intrinsic purity of the British rupees were as under:—

	Troy grains.	Pure contents.
Sicca rupee, 1773,	179.666	175.923
" " 1818,	191.916	175.923
" " 1835,	192.000	176.000
Benares rupee, 1806,	174.760	167.000
Farrakhabad rupee, 1803,	173.000	165.215
" " 1819,	180.234	165.215
" " 1824,	180.000	165.000
Madras rupee,	176.400	163.480
" " 1818,	180.000	165.000
Bombay rupee, 1800,	179.000	164.680
" " 1829,	180.000	165.000
H. E. I. Co.'s rupee, 1835,	180.000	165.000

Rupee of Nepal is worth 18 annas; it is called after an ancient dynasty, the Mahendra Mally, and commonly Mohāri.

The Bhoti rupee is called the Kala Mohāri, and ought to be the same as that of Nepal. The Nanak Shahi rupee had a pipal leaf as a symbol.

The purchasing value of the rupee has latterly greatly diminished. In Madras, from under 3 rupees the maund of rice in 1859-62 to under and above 4 rupees from 1863 to 1868; in the Panjab, from over 3 rupees in 1853 to under and over 5 rupees since 1861. From 1835 to 1854, paddy per maund in Madras sold from a half to three-quarters of a rupee, and since then till 1868 has ranged up to 2 rupees. Wheat per maund in Dinapur has risen from over 1 rupee to above 2 and 3 rupees; in the Panjab, from above 1 rupee to above 2 rupees; and in Bombay the average from 1842 to 1855 was Rs. 1.9.8 per maund; and from 1856 to 1868 it was Rs. 3.12.

RUPNATH, a famous place of pilgrimage at the foot of the Kaimur Hills, 35 miles N. of Jubbulpur. It has one of Asoka's rock inscriptions.

RUPPELL, a botanist who described the Hortus of the Red Sea, and southwards to Mozambique, and the fishes near the Cape.—*Dr. Smith.*

RURKI, a small modern town of 10,778 inhabitants, in the Saharunpur district of the Meerut division of the N.W. Provinces. It is situated on one of the most elevated sites in the Doab between the Jumna and the Ganges, in lat. 29° 52' 25" N., and long. 77° 55' 40" E.; distant 68 miles N. by E. of Meerut, 1000 miles from Calcutta. The districts of Meerut division are Aligarh, Bulundshahr, Dehra Doon, Muzaffarnagar, and Saharunpur. It has a college organized by Mr. James Thomason and Colonel MacLagan, at which the subordinate engineers of the Bengal Presidency are trained. It was opened in January 1848. It has a museum of economic geology, 997 feet above the sea, a lithographic and typographic press. Rurki stands on an elevated ridge overlooking the bed of the Solani river, 22 miles east of Saharunpur city.—*Imp. Gaz.*

RUSA ARISTOTELIS. *Jerd. Sambur.*

<i>Cervus hippelaphus</i> , Cuv.	<i>C. jarai</i> , Hodgson.
<i>C. equinus</i> , Cuv.	<i>C. heterocercus</i> , Hodgson.
<i>C. leschenaultii</i> , Cuv.	<i>C. saumur</i> , <i>Ogilby</i> , <i>Hodgson</i> .
<i>C. niger</i> , <i>Blainv.</i>	
Ghous, Gaoj,	BENG. Jarao, Maha, Jarai, HIND.
Kadavi, Kadaba,	OAM. Bara singhs,
Kannadi,	MORU, MAH. of the GHATS.
Ma-ao,	GONDI. Sambur, MAHE., DUKE.

The different Indian names of Hippelaphus, Aristotelis, Equinus are applied to the sambur stag, the great Indian stag, originally described by Aristotle under the designation of Hippelaphus, and discriminated as such by M. Duvaucel in the Asiatic Researches, xv. p. 174. The horns of different individuals present great diversities of form. The only common characters are those of a basal antler, springing directly and equally with the beam from the burr; and the beam terminating in a bifurcated extremity, formed by a branch or snag separating posteriorly, and pointing obliquely to the rear. But Mr. Elliot met with instances of medial antlers with trifurcated extremities, and in one case with the extremities showing a fourfold division. The size of the rusa is large, sometimes exceeding 14 hands in height. The colour varies from dark greyish-black or

slate-black, with the chine, the inner sides of the limbs, the under part of the tail, and the space between the buttocks yellowish-white, passing into orange-yellow, but never extending into a large circular disc on the buttocks. In several instances he met with hinds of a pale yellow or light chestnut colour. These were young individuals, but the shikaris always declared them to be the same as the common kind, and no other difference was perceptible. The cranium of one of these light-coloured females presents no structural differences from that of a young black female. Both sexes have canine teeth in the upper jaw, springing from the suture between the maxillary and inter-maxillary bones. The neck and throat are clothed with a long mane. The suborbital sinus is very large. When the animal is excited, or angry, or frightened, it is opened very large, and can be distended at pleasure. The new horns are soft and tender during the monsoon from June to September, about which time the rutting season commences. The stags are then fierce and bold. Mr. Elliot had seen one, when suddenly disturbed, face the intruder for a moment, shaking his head, bristling his mane, distending the suborbital sinus, and then dashing into the cover.—*Tennent's Ceylon*, p. 59.

RUSHES, grasses, and sedges are extensively used in India for the manufacture of mats, ropes, baskets, and thatching. The *Cyperus textilis*, and a finer kind of grass called kooray or koaray, are used for making mats. The celebrated mats of Palghat and Cochin are of several species of typha, juncus, and saccharum, which abound, and are applied to useful purposes. The *Phrynium dichotomum* of Bengal is used for making the sital patec mat.

Dutch rushes (*Equisetum hyemale*, L.) are used for scouring and polishing. Their roughness is due to a deposit of silicious particles in the epidermis. A species of rush called sweet rush or camel's hay is sometimes brought into China from Turkey and Arabia, tied up in bundles about a foot long. The stalk, in shape and colour, resembles a barley straw. It is full of fungous pith, like the British rush; leaves like those of wheat. When in perfection, it has a hot, bitterish, not unpleasant taste, and a very fragrant smell. It was formerly used in medicine.—*M. E. J. R.*; *Comp. Descr.*

RUSOT. HIND. Extract of the bark and wood of the barberry (*Berberis*), several species; deep yellow colour, totally soluble in water. It is the *Lykionendikon* of Dioscorides.—*Beng. Phar.*

RUSSELCONDAH, 736 miles from Madras, and 50 miles from Ganjam, in lat. 20° 56' N., and long. 84° 37' E., a military cantonment, named after Mr. Russell, who was Commissioner during the Gumsur war of 1835-36-37. It lies at the foot of a hill.

RUSSELL, DR. PATRICK, a Madras medical officer who succeeded Koenig as botanist to the E. I. Co. He devoted much time to the investigation of snakes and fishes, and edited Roxburgh's *Coromandel Planta*. In 1802, there appeared Dr. Patrick Russell's book in two volumes, containing the descriptions and figures of 200 fishes collected at Vizagapatam, on the coast of Coromandel; and 1796 to 1801, *Account of Indian Serpents* collected on the Coast of Coromandel, 2 vols. folio.

RUSSIA, a great dominion in Europe and

Asia, ruled by an autocrat emperor from St. Petersburg. The historical and geographical future of Russia impels her farther and farther towards the south, in spite of all obstacles; and, yielding to these natural impulses, she has advanced, on one side, from the Irtysch to the upper courses of the Syr Darya or Jaxartes and Amu Darya or Oxus; on the other, from Orenburg to the Sea of Aral, thus incorporating within her boundaries the greater portion of the steppes dividing Europe from Asia proper. A necessity arose for connecting her Central Asia settlements firmly together, and with this object roads were constructed, stations erected, steamers introduced, as on the Amur and Syr Darya, and telegraphic lines established from the Chinese frontier to St. Petersburg. The Amu Darya (Oxus) is for many reasons of greater importance to Russia than even the Syr Darya. It disembogued at one period into the Caspian, and its bed to that sea still remains. Many are of opinion that the course of the river can be again directed to its ancient bed. The importance of this connection will readily be understood when it is remembered that a water route, in continuation of the Volga, will be thus created, which will extend for 3000 versts into the interior of Asia, and that the extreme points of this uninterrupted water-way will be St. Petersburg and the northern slopes of the Hindu Kush, almost reaching the boundaries of the British possessions, and very closely approaching the Indus. The number of Turkoman, Kirghiz, Kazak, and other nomade hordes in Central Asia is computed at 3 millions, and the settled population at more than 5 millions.

Russia's Asiatic dominions are estimated at 6½ million square miles, with 18,000,000 of population. Russia has pushed forward her outposts to within 300 miles of the British frontier on the north. But there intervenes between the Russia in Asia and British India the barriers of the Hindu Kush and Kouen Lun, which rise like a wall, 17,000 feet high, with scarcely a crest or depression throughout their entire extent,—none certainly practicable for an army with the material and appliances of war as waged by the 19th century civilisation. In the far east, a settlement of the Amur was effected in much the same manner as Muhammad Toghluk once attempted to transfer the population of Delhi to Dowlatabad in the Dekhan, but with a more successful issue. Whole colonies of Cossacks, men, women, children, and household goods, were moved from their homes, and settled at distances varying from 100 to 500 miles.

In Europe, the people ruled by Russia are of various races. In Finland, the people are Scandinavians, if not altogether by blood and language, at least by long-cherished traditions, by culture and habits. In Esthonia, Livonia, and Courland—the Russian Baltic provinces—the native races exhibit engrafted, far-advanced German civilisation. In St. Petersburg, there is an amalgam of all European nations, with little, if anything, in its trade, in its various social ranks, in the court itself, that is not of alien birth, or at least descent. On the Volga, Tartar, Kal-muk, and other Asiatic tribes mix everywhere with the crowds of the cities, and are still at home throughout a vast extent of the country. In the Caucasus, what has been rescued from its savage tribes is either a desert, or is being seized by Arme-

nians, everywhere superseding the less energetic and thrifty Georgians. In the Crimea and the adjoining mainland, what has been taken from the Tartars belongs in a great measure to German, Bulgarian, Greek, and other settlers. Odessa is a cosmopolitan commercial town, formerly Greek and Italian, now mainly Jewish. Between Odessa and Kief the Polish element preponderates. According to Russian official statistics, the population of the empire amounted at the last census, in 1872, to 86,952,347, which may at the present time have risen to 98,323,000. Of these, 55,000,000 is assigned to the 'ruling race,' the East Slavs, divided into 'Great' and 'Little' Russians.

'Great Russia,' or Russia proper, extends from the walls of Smolensk to the neighbourhood of Viatska, from the Gulf of Onega to the Kazak settlements on the Don. It covers an empire fifteen or sixteen times as large as France, the empire of Ivan the Terrible, that Russia which lay around the four ancient capitals,—Novgorod the Great, Vladimir, Pskow, and Moscow.

South of these boundaries, in Southern Russia, is 'Little Russia,' the ancient Ukraine or borderland, Kief, Ohernigoff, Poltava, Charkoff; and farther south are the provinces of 'New Russia,' Bessarabia, Kherson, Tauris, or, as the Russians call it, Taurida, comprising the Crimea and the adjoining mainland, and Ekaterinoslaf. West of Little Russia, again, is the 'Black Earth country,' Podolia, Volhynia, and part of Kief.

In Great Russia, the ruling race is thoroughly modified by the admixture of at least 3,000,000 Finns (exclusive of those in Finland) in the north, and of 2,500,000 Tartars in the east, the former rapidly blending with the Slavs, who have squatted among rather than invaded or conquered them; the latter, as Muhammadans, resisting amalgamation with the Christians in recent ages, but have left deep traces of their features and character among the Slavs at the time of their all-sweeping inroads, at the end of which the court, the army, and the nobility of the victorious Ivan the Terrible were more than half Tartarized; when the king and his Boyars kept their wives and daughters shut up in their harems, some of which may still be seen in some odd wings of old Russian mansions, and buried them in separate cemeteries. Even in Russia proper, the population is, Scandinavia alone, perhaps, excepted, a mixture of various Slavo-Finnish-Tartaric races. But the mixing is far more observable in the other two divisions of European Russia: in Little Russia, the mass of the people are Ruthenes or Russines, long awayed over by the West Slavs, the Poles, and Lithuanians, who still constitute the aristocracy of the land; and in New Russia, where the Tartars are still at home, at peace with Germans, Greeks, Roumanians, Bulgarians, and other colonists, flourishing among them; while over both roam the Kazak, exhibiting the features and roughly adopting the habits and manners of the various peoples among whom their lot is cast,—nomades among Tartars, wasteful husbandmen in settled districts, wild marauding soldiers whenever their old trade is allowed to them.

The Statesman's Year Book for 1872 gives the estimated population of Russia in Europe, including Finland and Poland, at 68 millions and a quarter. That empire in 1722 stood at 14 millions; in 1803, at 36 millions; in 1829, at about 50

millions; and in 1863, at 65 millions. In the time of John III., that is to say, in the second half of the 15th century, its area occupied only 18 million square miles. In the reign of Alexis, in 1650, its extent had already reached 237 millions; under Peter the Great, 280 millions; under Catherine II., 336 millions of square miles; and now the area of the Russian empire, including Finland, Poland, Russia, and Siberia, is very nearly 370 millions of square miles. Siberia and the Caucasus add nearly 9 millions to the population of the entire empire, which thus stands, as nearly as possible, at 77 millions.

Russia in Central Asia has a population of 2½ millions, including in this the Kirghiz steppes, 1½ million, and Russian Turkestan, 1¼ millions; Siberia has 3¼ millions, Russian Caucasus, under 5 millions; total, 12 millions.

In 1879, the entire dominion in Europe and in Asia was—

	Sq. kil.	Pop.		Sq. kil.	Pop.
European Russia,	4,888,713	74,493,809			
Poland, . . .	127,310	7,104,760			
Finland, . . .	973,603	2,028,021			
Sea of Azof, . .	37,490				
				5,427,124	83,626,590

Russia in Asia—

Caucasus, . . .	472,666	5,546,550			
Trans-Caspian Territory, . .	827,068	203,000			
Siberia, . . .	12,495,109	3,911,200			
Central Asia, .	3,017,700	5,036,000	16,812,604	14,696,750	
			Grand total,	21,739,728	98,323,000

Russia has been conquering to the east since the latter part of the 15th century. In A.D. 1487, Kasan was made subject to Ivan IV., who reigned from 1533 to 1584, subdued the Tartar khanates to the south, with the exception of the Crimea. Astracan fell in 1554; the Bashkirs in 1556. Peter the Great, in 1727, conquered the provinces to the west of the Caspian Sea, which Russia lost again in 1794. In 1806, the great territory of Darbend came into her possession; in 1813, two Caspian provinces, Daghestan and Shirwan, were restored to her. In 1828, she acquired Arran, and by 1868 she had advanced in Central Asia till contemporaneous with the Chinese empire. To secure her Asiatic conquests over a population of 12 millions, she requires to keep an army of 163,759 men,—one soldier for every 70 of the population. Britain garrisons India with its 250 millions of souls by an army of 180,000, of whom 60,000 are British, being one to every 1400 souls.

Asiatic Russia is bounded on the north by the Arctic Ocean, in a coast line of 7333 English miles. On the east the shores of the Pacific, from Cape Chukotst to the mouth of Tumen ula, are 6067 miles. The shores of the Caspian and Aral Seas extend 1167 miles. The land frontier on the south, from the Caspian and Aral Seas to the mouth of the Tumen ula, is about 6667 English miles, viz. 2200 along the course of the Jaxartes, Charyn, Argun, Amur, and Usouri, about 2233 by the Celestial, Alatau, Altai, and Sayan mountains, and an equal part of open land frontier.

Russia in Asia has about 3,768,000 miles unfitted for a settled life, and only 1,930,000 square miles of cultivable land. The unsuitable steppes in W. Siberia and in the Orenburg region are 753,000 square miles. The tundra or marshes and frozen land in W. and E. Siberia are 2,584,000 square miles, and the mountainous country and

highlands in the Tian Shan, Alatau, Sayan, Altai, Yablonoi, and Stanovoi mountains, 431,000 square miles. There are numerous lakes, the largest of which are—

Baikal, . . . 12,400 sq. m.	Piasino, . . . 2,410 sq. m.
Balkhash, . . . 8,530 "	Zaisan, . . . 1,490 "
Hinkai, . . . 1,420 "	Alakul, . . . 800 "
Chany, . . . 1,270 "	Dengiz Citter, 560 "
Sumy, . . . 410 "	Abyshkau, . . . 540 "
Kulundonsk, 280 "	Chukchagyr, 260 "
Issyk-kul, . . . 2,500 "	Barun-torei, 210 "

The northern half of Central Asia consists of the Kirghiz desert, which is mountainous and rugged on the east, and full of saline steppes on the west. In the midst of the southern half lies the Sea of Aral, on the western side of which, up to the Caspian Sea on the west, there stretches a broad tract of desert. But it is in a fertile tract that the conquests of Russia were made between 1864 and 1868. After long years spent in fortifying posts, in 1864 Russia made a sudden irruption into the upper valley of the Jaxartes or Syr Darya, and in that year took three forts of Khokand, viz. Aoulietta, Turkestan, and Chemkend. In the spring of 1865, the chief of Khokand fell in battle, and in June 1865 the city of Tashkend was stormed. On the 20th May 1866, they fought and won the battle of Irdjar, against the Bokhariotes, and later in the year captured the forts of Oratepo and Juzak, within 40 miles of Samarcand. On the 13th May 1868, a great battle was fought under the walls of Samarcand, and the city surrendered, and later in the year Bokhara yielded.

Great Britain has so recently become paramount throughout India, that this approach of Russia to its borders may inspire hopes among martial races there who would welcome any change from the uncongenial quiet of civilised settled life. Circumstances may drive Russia on, as, in 2500 years, Scythic Getae, Alexander, Arabs, Shahab-ud-din Ghori, Chengiz Khan, Timur, Baber, Ahmad Shah, and Great Britain have been. The only possible routes for Russia would be from Balkh by way of Kâbul and the Khaibar pass, or through the Kara-korum pass, or to establish her base at Herat, march via Kandahar and the Bolan pass. But this may be a dream for many centuries to come.—*Russians in Central Asia, Capt. Valikhanoef and M. Yemukof; J. R. Mitchell, p. 4.*

RUSSIA LEATHER.

Cuir de Russie, . . . FR.	Jachta, POL.
Juften, GER.	Juft, Youf, RUS.
Balghar, HIND.	Moscovia, SP.
Caojo di Russia, . . . "	

The tanned hides of oxen, manufactured in a peculiar manner. The leather is soft, has a strongly prominent grain, a great deal of lustre, and a powerful and peculiar odour. The colours are principally red or black; the former is much esteemed for binding books and making articles where a fine durable leather is required; the latter is chiefly in demand in Russia for shoe and boot making. It is occasionally brought to Peshawur. Another kind of leather, having a metallic lustre, called kimsana, is imported also from the north-west; also a beautiful leather, used in the manufacture of the bright blue-green shoes from Kashmir and Peshawur, which is called kinakht. This is not made in the Panjab. Peshawur sword scabbards are often covered with a black leather, looking like morocco; it is probably an imitation. Russia

leather is said to be made of horse's skin; it is thick but pliant, and of most grateful fragrance. The skins are much valued for the preservation of merclandise, as insects will not attack them.—*Faulner.*

RUST, red rag, red robin, red gum, Uredo rubigo and U. linearis, are fungi which attack wheat in England.—*Hassel.*

RUSTAM, a king of Persia, who was born in Segistan, B.C. 1072; established the Seoraja dynasty at Kanouj, where the worship of the sun was introduced. The dynasty survived 286 years.—*Prinsep, p. 288.*

RUSTUM, a hero famed in Persian romance. Felamorz, son of Rustum, was defeated by Behram near the fort of Fessa, between Shiraz and Darab. Behram caused Felamorz to be hanged, and his tomb existed in the village until, it is said, a European traveller removed it away as a relic.

RUTA ALBIFLORA, white-flowered rue, is common on the Himalaya, at an elevation of 5000 to 8000 feet; is sometimes cultivated, and very common, truly wild, at elevations of 3000 to 7000 feet. It is generally used for roup and all diseases of fowls, mixed with their food. The rue tribe of plants, Rutacee, comprise—3 Ruta, 2 Cyminosma, 1 Aplophyllum, 1 Evodia, 1 Dictanonus.

Ruta graveolens, Linn., Rue.	
Sudab, ARAB.	Sadab, MALAY.
Paganon of Scripture, ENG.	Sudap, PERS.
Herb of grace, "	Somalata, Brahmin, SANSK.
Rue of Luke xl. 42, "	Aruda, TAM.
Safari, Aruda, HIND.	

This rue is a plant of Europe; its variety, Ruta angustifolia, Pers., is met with in gardens in India, and used medicinally, its seeds being officinal and given in colic; those of Euphorbia dracunculoides? are sometimes substituted. The leaves contain a quantity of an acid volatile oil and bitter extractive matter. Used by natives in a peculiar rheumatic pain, called rhi, caused by exposure to draught. It also acts as an emmenagogue, and in pregnancy causes abortion. R. tuberculata grows wild in Sind.—*Stewart; Powell; J. A. Murray.*

RUTNAGHERRY, in lat. 16° 18' N., and long. 87° E., is a straggling open town 160 miles S. of Bombay. Rutnagherry, on the Konkan coast, in lat. 16° 59' N., and long. 73° 15½' E., is a fortified neck of land, on the south side of which is a large bay into which a river disembogues.

RUY GONZALEZ DE CLAVIJO, The account of his journey in his embassy to the court of Timur, at Samarcand, is the oldest Spanish narrative of travels of any value. These ambassadors were present at the battle of Angora, between Timur and the Turk Bayazid, in the year 1402.—*Markham's Embassy, p. 3.*

RYE.	
Rug, DAN.	Sentaio, Conteo, . . . PERS.
Rogge, Rog, DUT.	Sel, Jar, RUS.
Segala, Seigle, FB.	Rosh, Rosh, "
Rocken, Roggen, GER.	Conteno, SP.
Segala, IT.	Rag, SW.
Secale cereale, LAT.	

The grain of Secale cereale comes nearer in its properties to wheat than any other grain. It is the bread corn of Germany and Russia; being of less value to the English farmer than barley, oats, or peas, it is in consequence very little cultivated

in Great Britain. The seeds are met in the market, deprived of husk. Rye flour is said to be somewhat laxative. The roasted grains are not unfrequently employed in the adulteration of coffee. Rye flour does not form a paste like wheat flour.—*Hassel; Faulkner; M'Culloch.*

RYOT. ARAB., HIND., PERS. A cultivator, a client, subject, but is more especially applied to the agricultural population; properly Raiat, plural Riaya.

RYOTWARI, a revenue term applied to a system under which the land taxes are collected, in all those parts of India in which the village communities have been broken up by the distracted state of the country for generations, or in which the exclusive title of the representatives of the old proprietors has been superseded by the prescriptive rights acquired by the actual cultivators.

In Madras and Bombay, generally, the normal state of the ryot is to hold under the Government.

In Coorg, the janam or hereditary ryot pays direct to Government at a light rate, but on condition that he shall not alienate or sublet the land or even cultivate it otherwise than by his own household or by his slaves.

In Coimbatore and south of Madras generally, the Nutamkar or Gour ryot is recognised as the absolute proprietor of the soil.

In Tanjore, the mirasdars have a transferable right of property in their holdings, and they have sub-tenants, called parakudi, who cultivate on their own stock, but are liable to be ousted.

In Malabar, the janam tenure is a fee-simple or hereditary right of possession, which can be leased or mortgaged. The janam kār assigns a portion of land to be fenced and stocked, in consideration of which the holding is enjoyed free of charge for twelve years. If resumed, which is seldom done, compensation for improvements is given, otherwise the tenure is maintained on easy terms. Kai kanum patum, or a usufructuary tenure by labour, also prevails.

In Canara, the mulgueni or proprietary tenants are of the two classes,—Nair Mulgueni, whose tenure is by ancient prescription; and Shud Mulgueni, by purchase. The Chailgueni is the tenant-at-will, from whom the landlords may get additional rent whenever there is a higher offer.

In Poddapur and Cuttampur a right is vested in the ryot, which partakes more of what is termed in the southern provinces the Pashangary tenure, in which no sale of the right of occupancy is customary, than of the Adhkari tenure, under which the right of occupancy is considered transferable, subject to the obligations annexed to the possession of it.

In the Tamil country, under the mirasdar, there are non-proprietary tenants, who are divided into oolcoody or permanent, and paracoody or temporary, cultivators. The oolcoody farmer has rented the same farm at a given rent (in money or grain) for several generations, and enjoys a right by prescription; he cannot be ousted so long as he pays the rent, which cannot be raised. The tenure is hereditary, and can be mortgaged, but not sold.

The paracoody farmer has no privileges beyond the terms of his contract.

Where there are no mirasdars, the ryots are considered as ool-paracoody, holding from Government.

The Pycary tenure is of two kinds,—resident where there is a continuing interest, and non-resident where there is no such interest, and where the stranger is tempted by low rents. The tenure of the first of these is like that of the copyholder of England. It is hereditary by prescription, but they cannot alienate, for the right extends to the use of the soil only, and not to the substance.

The Pariab, Puller, and Pulli of the Tamil country, who are predial slaves and serfs under the Hindu landowners, claim hereditary private landed property as the incident of their villeinage, and it is generally allowed to them and their descendants on proving former residence in the village.

In Bombay, there are three classes of ryots—(1) Mirasdars or landed proprietors, possessed of watans, which are privileged holdings that command a price in proportion to the lightness of the assessment. Half the produce is the full Government rent of an ordinary cultivator. (2) Oopree or permanent tenants; and (3) Warwunda-kurri or temporary tenants. The first of these can be traced to the remotest antiquity. It may be conferred by the heads of villages, and implies a hereditary right so long as the rent by village usage is paid. The second, bating some privileges, is almost as valuable.

In Sind every man in the south who holds a few acres, is called a zamindar. In the north there is a class of hereditary cultivators called marusi-hari, who pay lapa to the zamindar over and above the Government assessment.

In Malwa there are three classes—(1) the Janmi or Watani Kursan, (2) the Sukbasi, and (3) Pykashti. The first of these can sublet and possess a title to the fields their forefathers cultivated, which is never disputed so long as they pay the Government share. The second are new settlers, who at first have no immunities, but after two or three generations their descendants merge into the first class. The third are non-resident, and have no rights beyond their contract.

In Nimar, cultivating occupancy resembles that of other Mahratta districts, but is weaker, as in Oudh, under native rule; the ryot, if not well treated, moves off to an adjoining village under another farmer, and cultivates there.

In Mewar the ryot is proprietor of the soil. He compares his rights to Dubh grass (*Cynodon dactylon*), which no vicissitudes can destroy. He calls his land his hapots, which is the watan of the Mahrattas, and the miras of the south of the Peninsula. The military vassal in Rajputana is called blumia, the caniatchy of Malabar.

In the Himalaya, besides the proprietors, there are khaekur, with rights of occupancy so long as they pay the Government share of the revenue, and a few serthan who hold a lease.

In Orissa the ryots are divided into—(1) Thanees, who seldom hold under a patta or lease, and (2) Pahees, who always do so. The Thanees hold a hereditary non-transferable right of occupancy, and their rent is usually restricted to that portion of the Government demand that remained due when the Pahee payments had already been appropriated to its liquidation.

In Benares are resident and non-resident ryots, and the farmer or proprietor could not disturb the former, so long as they paid the stipulated rent; but the latter were cultivators-at-will.

In Saharunpur right of occupancy prevails, and the rent could not be raised above the customary rates; the rents on non-proprietary cultivations are adjusted according to the different kinds of produce.

In Moradabad rents in kind are the rule, money rents the exception, and the only real Khud-Kasht ryots were of the zamindar's family, and could not be dispossessed.

In Bareilly, on the expiration of a lease, the landlord was generally considered free to let the land to whom he pleased, but it was generally relet to the last tenant.

In Shahjahanpur, if a higher rent be offered than what the resident ryot may choose to pay, he may be ousted.

In Muttra the proprietor has the rights of ousting the tenant if he refuse to pay the estimated value of rent.

In Agra the proprietor cannot oust a cultivator possessing the right of inheritance in the soil; but those who have no such hereditary right can be dispossessed in favour of another willing to pay more.

In Mynpuri, Farrakhabad, Etawa, Gorakhpur, and Allahabad, the proprietor cannot dispossess any person having a right by inheritance in the soil; but those who have only a tenancy can be put out in favour of another person willing to pay more, no matter how regularly the tenant may have paid his rent.

In Bundelkhand the cultivators are all proprietors, and (apparently even if sold out) have a right of occupancy at customary rates.

In Cawnpur the ryot is a tenant-at-will, cultivating from year to year; popular opinion prevents exaction.

A tenant is also called in the Mahratta districts, Sukar, Kunbawa, or Kul. They are distinguished by their holdings as Thulwaluk, Mundwaluk, Oopri, and Owundkari. Cultivators of Central Oudh who enjoy rent privileges are styled Amnek. A family or relatives cultivating their own lands are called Bhaiyachara or Bhayad. Ordinary cultivators are called ryot, plural ryaya, or arzal, meaning humble or common.

In the Bengal Presidency, during the administration of Lord Cornwallis, in the provinces of Bengal, Behar, and Benares, the Government settled, permanently, the persons' names, and the amount of tax to be raised, solemnly engaging never to increase it. The persons thus raised to a social position similar to the landlords of Britain, were termed zamindars. There is no doubt that many of them were persons of hereditary influence and status in the country, and that their connection with the land, of which they were then recognised as the proprietors, had in general been of a permanent character. But their position, nevertheless, was essentially that of middlemen, collecting the revenue, not for themselves, but for the Moghul government, accounting to that government for their receipts, and remunerated by a percentage of the collections. It is now, however, universally admitted that they never had the power of disposing arbitrarily of the land. There were everywhere at least large classes of tenants whom they could not lawfully eject, except for non-payment of revenue, and from whom they could not lawfully exact more than the customary payments.

The ryotwar system of Madras was principally

followed out by Colonel Reade and Sir Thomas Munro. Under this system, the peasant himself, the cultivator or farmer, is regarded as the proprietor of the soil, subject to the payment of the Government demand. The position which the Madras ryot holds is somewhat similar to that of the feuars of Scotland, whose feu is held in perpetuity, subject to a permanent feu-duty; with this difference, that in Scotland the rent or tax or feu is permanent, or for a long lease of 999 years, but in Madras the amount charged is settled annually. And this has given rise to the term Annual Settlements in Madras, as the system introduced by Lord Cornwallis has been named Permanent Settlements, the latter leaving the farmer entirely at the mercy of the landlord, as was the case until after the middle of the 19th century, when Government passed Acts to protect the ryots. The Madras ryot can increase or diminish his holding annually, and has thus all the benefits of a perpetual lease, without its responsibilities, inasmuch as he can at any time throw up his lands, but he cannot be ejected so long as he pays his dues. He also receives assistance by remission of assessment in unfavourable seasons. The practical disadvantages of the ryotwar system consist in the annual meddling and supervision required on the part of Government for valuation of cultivated lands. The advantages are this, that as the land furnishes in India the great bulk of the revenues, and as the taxes of a country must ever be regulated by the wants of the State, the annual collection affords the best opportunity for realizing moneys for State purposes.

In the North-Western Provinces the lands were acquired principally in consequence of Lord Wellesley's Mahratta wars, but the settlement of their land revenues was commenced and completed between 1834 and 1844, principally by Mr. Robert Mertens Bird. It is called the village system or settlement, and has been acted on, in the belief that the village community consists of the descendants or representatives of those by whom the village was, at some remote time, conquered or reclaimed from waste. In most cases these are a part, and in some form the whole, of the agricultural population of the village; but the ordinary peasants or cultivators are descendants of persons who have settled in the village with the permission of the proprietors. But some of them have by grant or prescription acquired a fixity of tenure, while others have remained tenants-at-will. The village proprietors formed prescriptively the municipal government of the village,—a fact of great importance, village government being the only institution properly so called which the Hindus possessed. The time occupied in thus settling the N.W. Provinces was about ten years, and the expense incurred in it was upwards of £500,000. It comprehended a detailed survey of a country about 72,000 square miles in extent, containing a population of more than 23,000,000, producing a land revenue exceeding £4,000,000. The proprietary rights, as ascertained and recorded at the survey, were confirmed in perpetuity; but the Government assessment was fixed for twenty, and in some cases for thirty years.

The Panjab Settlement was on leases for terms of years, usually short, and the cess does not exceed one-fifth of the gross value of the produce in rich tracts, and one-sixth or

one-eighth, or even less, in poor. In the Bombay Presidency the Madras ryotwar system was introduced after the Mahratta wars terminating in 1818; but since a recent survey, the land, cultivated and waste together, is divided into fields of an extent cultivable by one yoke of bullocks, and on each field the Government demand is fixed for a period of years, at a very moderate rate. While the contract is binding on the Government, the ryot, on his side, can throw up his engagement at pleasure, and he is not required to pay the assessment for any year on any field which he has not cultivated or undertaken to cultivate in that year. This assessment holds good for a term of thirty years. The ordinary rates vary in different districts, from 4s. 6d. an acre in the rich black-soil lands of Gujerat, to 10d. an acre in the hills of the Korkan. In the Madras Presidency, a great improvement was introduced in the year 1837, by ruling that the land tax should not be increased because on such land a more valuable article was cultivated; and in 1855 an entire revision of the Madras cess was undertaken and carried out during the administration of Lord Harris.

Nearly two-thirds of the revenue of India consists of the rent, or cess, or tax on land; the second in amount is from opium, a third is from salt.

The land in the south of India belongs firstly to the family, secondly to the village community. Joseph bought up the whole land of Lower Egypt for the king; every man sold his field, and the whole soil, except that which belonged to the priests, into which class he had himself been adopted by marriage, then became the property of the crown. He then made a new division of the land, allotted out the estates to the husbandmen to cultivate, and gave them seed to plant, and required them for the future to pay one-fifth part of the crop, as a rent, to the royal treasury. Thus did that Asiatic minister, copying the customs of the east, make the king the landlord of the whole country except the estates of the priests; and the land was then held by what is now known in Asia as the ryotwar tenure. In Asia, generally, the landholders are tenant-proprietors at a changeable rack-rent of about one-half of the crop; whereas the Egyptians paid a fixed and low rent of one-fifth. The Egyptian landholder was therefore rich enough to have peasants or slaves under him, while the Indian ryot is himself the peasant-proprietor. This rent was in the place of all direct taxes.

Throughout the Bundi territory by far the greater part of the land is the absolute property of the cultivating ryot, who can sell or mortgage it. There is a curious tradition that this right was obtained by one of the ancient princes making a general sale of the crown land, reserving only the tax. In Pundi, if a ryot become unable, from pecuniary wants or otherwise, to cultivate his lands, he lets them; and custom has established four annas per bigha for irrigated land, and two annas for gorma, that dependent on the heavens, or a share of the produce in a similar proportion, as his right. If in exile, from whatever cause, he can assign his share to trustees; and the more strongly to mark his inalienable right in such a case, the trustees reserve on his account two seers on every maund of produce, which is emphatically termed 'huk bapota ka bhom,' the dues of the patrimonial soil.—*Tod's Rajasthan*, ii. p. 540;

Sharpe's History of Egypt, i. p. 36; *Carnegy Imp. Gaz.* iv.

RYTINIA STELLERI, the sea-cow of Behring Straits. It lives on sea-weed. The Kolush tribes have nearly exterminated it.

S

S, the 19th letter of the English language, is a sibilant consonant, and has a hissing sound. It has two uses,—one generally at the beginning or end of words, to pronounce a mere hissing, as in Sabbath, sack, sin, etc.; the other a vocal hissing, precisely like that of *z*, as in muse, music, wise; but its sound in the middle and end of words can only be learned by practice. In a few English words it is silent, as in isle. The simple sibilant of Europe occurs in Arabic, Sanskrit, and in all Indian alphabets. The palatal *s* of the Nagari alphabet, in use in words of Sanskrit origin, is commonly pronounced as *sh* somewhat softened. The Arabic alphabet has two letters to which, in India, is given the sound of *s*. One of these, called in India *sad* or *swad*, has, amongst the Arabs, the sound of *dal* or *dhad*; the other Arabic letter is called in Arabia, *say* or *thay*, but in India it has only the sibilant sound of *s*. The Persian letter *sin* has the simple sound of the English letter *s*. The Persian and Nagari letter *sh* has the sound of *sh* of the English alphabet. On the western districts of British India, and along the line of the Indus river, the letters *h* and *s* are interchangeable, so that *Sind* becomes *Hind*, and *singh*, a lion, is changed into *hing*, garlic. *S*, *t*, and *th* are interchangeable letters, also *s* and *t* in all Turanian, Turki, and Dravidian tongues are interchangeable,—*sri* or *shri* becomes *tiri*, *sar-bad* or *head-dress*, *head-tie*, becomes *tarband*. Dion Cassius remarking on the term Assyria or Atyria, noticed that the barbarians change the sigma into tau,—Ashur becomes Athar. *Tiri* or *tira* is the recognised Dravidian pronunciation of the Sanskrit *sri* or *shri*, sacred or holy. *Ss* was pronounced as *th* by the ancient northern races, who wrote Sol or Sor, the sun, as Thor. In Tamily and *s* are constantly interchangeable. Thus *uyir* or *usir* is life; *uyaru* and *usaru* is to be exalted or lifted up; in Canarese *usar* is life, power. *S* of the Sanskrit changes into *h* in most of the Hindi dialects, and also in the Greek. In the Zend, the Sanskrit *s*, as in *asura*, changes to *h*, as in *ahura*.

SA. KOL. A grove.

SAA. ARAB. A grain measure of 7 lbs. or 8 lbs.

SAAD AILAH KHAN, vizir of the emperor Shah Jahan, died about the year 1653. He was the most able and upright minister that ever appeared in India. He makes a conspicuous figure in all the correspondence of Shah Jahan, and is constantly referred to as a model in the correspondence of Aurangzeb, during the long reign of that monarch. Khafi Khan says that in his time the descendants of Saad Allah Khan, near a century after the death of their ancestor, were still distinguished for their virtues and intelligence, and he contrasts the respectability of their conduct with the frivolity and effeminacy of the other nobles of that era.—*Elphinst.* p. 518.

SAADAT, ARAB. pl. of Syud, lords, descend-

ants of Mahomed through his daughter Fatima and his son-in-law Ali.

SABA, of Ezekiel xxvii. 22, an ancient town in the district of Balad-ul-Jahaf in Yemen, and the capital of the ancient Sabæans, and to this day the district is termed *Ar-ds-Shaba*, or 'land of Sheba.' It is doubtless identical with the realm whence the queen of the East came to visit Solomon. Mareb, the present capital of the district, is built on the site of the ancient Saba. It contains about three hundred small houses and several ruins, which are attributed to Queen Balkees. A dyke or dam of masonry, famous in Arab history, was drawn across the valley, between two hills called Balak, six hundred paces asunder. (See *Sail-el-Arim* or *Sedd Mareb*.) *Haram Balkees*, the palace of the queen of Sheba, is west of the town of Mareb. About one-fourth of the wall is still standing, and covered with Himyaritic inscriptions. The ancient residence of the queen of Sheba, who formed the city, is about a mile and a half in diameter. At the time of the *Periplus of the Erythrean Sea*, the Sabæans monopolized the commerce of India, and acted as intermediate agents between the merchants of India and Egypt. In the reign of Ptolemy Philoter (A.D. 177), the Greek sovereigns in Egypt had not traded directly to India, but imported their Indian commodities through Saba, the capital of Arabia Felix. The port of Berenice was not used for that commerce, but *Myos Hormos* or *Arsenoe* was still the emporium, and the only trade down the coast of Africa was for elephants' teeth. The trade to the east had been monopolized by the merchants of Sabæa, from the patriarchal days of Job. The period at which the kingdom of Saba or Himyar flourished was the golden age of Arabic poetry. The religion of the Himyarites, in their devotion, was directed to a multitude of deities, of which the principal were represented by the sun, moon, and planets. Saba, surnamed Heber, was the father of Kahtan (*Jogtan*), father of Yoorab, father of Yabsab, father of Abd-us-Shams. Abul Fada ascribes the construction of the Mareb-dam to Abd-us-Shams, but other historians ascribe it to Loqman, king of that remnant of the Adites who renounced idolatry on the preaching of the prophet Hud, and who are usually styled the second Adites. Saba was also a name applied to Abd-us-Shams, founder of Mariaba. Amongst his sons were Himyar, Amru, Kahtan, and Ashaar.—*Playf. Aden; Early Chris.*

SABA, said to signify a host, particularly the host of heaven, or the celestial bodies, in the adoration of which the Sabæan ritual is believed to have consisted; the celestial bodies, the planets and constellations, were personified in the genii of good and evil.

SABAB, a mountain of Siam, near which and on the frontiers of the Xong tribes, precious stones, consisting of rock-crystal, cat's-eye, topaz, garnet, sapphire, and rubies, are found.

SABADILLA, fruit of *Veratrum sabadilla*, of *Asagrea officinalis*, and of several other of the *Meianthaceæ*.—*Ben. Phar.*

SABÆAN or Sabæan, the people of Saba in Yemen, the traditional descendants of Saba or Sheba, the rulers of the Cushite kingdom in Southern Arabia, now known as the Himyarite. They are quite distinct from the Sabians mentioned in the Koran. Sabæan is a term which

has been variously applied to the ancient inhabitants of Southern Arabia; also to the philosophical sectaries of Haran; and likewise also to the pseudo-Christian remains of Babylonian astrology. The Arabian writers, on the other hand, apply it to the pagans of all parts of the world, to all who are neither Jew, Zoroastrian, Christian, or Muhammadan. The true Sabæans of to-day are the 'Subba' of Mesopotamia. They are descendants of the Nabathæans, the Chaldæans. They have a great reverence for the planets; they call themselves *Mandæans* (*Mando-Yahye*, disciples of John), and they have various sacred books; but though called Christians of St. John, they are Chaldees in speech and religion. They have 360 divinities, amongst whom are Yahya, also *Babram Rabba* and God, whom they style *Alaha*. In the environs of Babylon they retain a great number of Babylonian religious traditions; they designate the tree of life in their Scriptures as *Setarvan*. Sabæism was formerly re-introduced in Kusem by Darim, about the year 1200, and prevailed till the Wahabee revival. In the Vedic Sabæanism only the elemental powers are invoked. Sabæan worship once extensively prevailed in South America. There is a curious passage in Tavernier concerning the aversion of the Sabæans to blue; and there exists a similar antipathy among the Kurdish sect of the Yezdi (who appear to have been once Christians) for that colour, grounded on a different, although not less absurd, reason. Tavernier makes mention of another peculiarity of the Sabæans, and calls it the ceremony of the fowl, which their priests alone have the right to kill; but he does not explain in what this ceremony consists, so that we cannot now judge whether it has any connection with a custom prevalent among the Yezdi. Arabian authors who lived with the Sabæans state unanimously that they worshipped the seven planets (*Masudi*, i. p. 218), and that their faith did not materially differ from that of the Chaldæans. It resembled that of the idolatrous nations around them; they addressed their devotions to numerous deities, of which the principal were represented by the sun, moon, and stars; but there were many who acknowledged one deity as the supreme Lord of the universe. They believed in the immortality of the soul, and a future state of rewards and punishments, while many held the doctrine of transmigration. The Sabæan, called *Sabi* by Muhammadans, who are known to Europe as the Nazarenes, also Christians of St. John, designate themselves *Mandæan*. They are in two small tribes of artisans, about 4000 in number, one tribe settled in Haran and one in Babylonia; those of Haran only took the name of Sabæan in A.D. 830, during the khalifat of Mamun, in order to bring themselves within the 5th Sura of the Koran, which recognised as people of the faith, Jews, Sabæans, and Christians. Those of Haran have a confused belief framed of biblical legends, Jewish ceremonial laws, Greek gods. Those of Babylonia speak an Aramaic dialect closely allied to Syriac and Chaldeæ. They have two Scripture books,—one the *Sidra Rabba*, also *Ginza* or *Treasure*, and the other the *Qolasta* hymns. John the Baptist is their lawgiver. They have frequent baptizings and purifications by ablutions.—*As. Res.* ii. p. 374. See *Ali Ilahi; Veda; Yezdi*.

SABAGRÆ, according to Orosius, a people who made their submission to Alexander the Great during his halt at the confluence of the Panjab rivers. According to Curtius, they were called Sambracæ or Sabracæ; and according to Diodorus, who placed them to the east of the river, Sambastæ. They were a powerful nation, second to none in India for courage and numbers. Their forces consisted of 60,000 foot, 6000 horse, and 500 chariots. The military reputation of the clan suggested to General Cunningham the probability that the Greek name may be descriptive of their warlike character, just as Yaudheya means warrior or soldier. He thinks therefore that the true Greek name may have been Sambagræ, for the Sanskrit Samvagri, that is, the united warriors, or Συμμάχοι, which, as they were formed of three allied tribes, would have been an appropriate appellation. In support of this surmise, he mentions that the country of which Bikanir is now the capital was originally called Bagar-des, or the land of the Bagri or warriors, whose leader was Bagri Rao. The word Bhati also means warrior or soldier, and thus at the present day the tribes calling themselves warriors form a large proportion of the population in the countries to the east of the Sutlej, namely, the Johiya or Yaudheya along the river, the Bagri in Bikanir, and the Bhati in Jeyaulmir. All three are of acknowledged Lunar descent. He thinks it possible that the name Sambagri might have been applied to these three clans, and not to the three tribes of the Yaudheya, but he thinks that the Yaudheya have a superior claim, on account of their undoubted antiquity. To them he attributes the foundation of the town of Ajudhan or Ayodhanam, the battlefield, which is evidently connected with their own name of Yaudheya or Ajudheya, the warriors, and he thinks the latter form of the name is most probably preserved in the Ossadii of Arrian, a free people who tendered their allegiance to Alexander at the confluence of the Panjab rivers.—*Cunningham's Geog. of Ind.* p. 246.

SABAKHIA, a predatory race in Orissa.

SABAKTAGIN, the second ruler over the southern tribes of modern Afghanistan. In the reign of Abdul Malik, the fifth prince of the house of the Samani, Alptegin, A.D. 961, A.H. 350, rose to be governor of Khorasan. He had been a Turki slave of Abdul Malik, but, having incurred the ill-will of his successor, he retreated with 3000 disciplined slaves to Ghazni, and till his death held the strong tract between the Suliman mountains and the Indus, against all attacks. He died A.D. 976, A.H. 365, fourteen years after assuming independence. He was succeeded by Sabaktagin, a Turki slave, who had married the daughter of Alptegin. Raja Jeipal of Lahore advanced into Laghman to oppose him, but entered into agreements, which he subsequently refused to fulfil, and formed a combination with the rajahs of Dehli, Ajmir, Kalinjar, and Kanouj. Sabaktagin advanced to meet their army, which he defeated and pursued with great slaughter to the Indus. He found a rich plunder in their camp, and took possession of all the country up to the Indus, and occupied Peshawur. The Afghan and Khilji of Laghman immediately tendered their allegiance. He subsequently twice carried a large force to the aid of Nuh or Noah,

the seventh of the Samani kings, whom Bogra Khan of the Hoie-ke Tartars had forced to fly across the Oxus. Sabaktagin on the second occasion totally defeated them (A.D. 995, A.H. 387) in the neighbourhood of Tus, now Meshid. Sabaktagin made Ghazni his capital. He died on his way to Ghazni. The name is also written Sabaktaghi. He was succeeded by his son Ismail, but Ismail after a few months was put aside by his younger brother Mahmud. Mahmud, who died A.D. 1028, enriched Afghanistan with the spoils of India. In the reign of the cruel Babram, one of the Tartar's descendants, the Sabaktagin dynasty were deprived of all but the Panjab, and this too, in A.D. 1160, they lost.—*Elphinstone*, pp. 274-76; *Ferrier's Afghanistan*, p. 14.

SABALA, one of the two dogs of Yama.

SABALIA, in Gujerat, a low caste, employed in tending cattle; a cowerd race.

SABAL UMBRAULIFERA, the West Indian fan-palm, growing in Jamaica to a height of 60 to 80 feet, bearing leaves 4 to 6 feet in diameter; it might be introduced into India.

SABAR, wash-leather, soft leather of the sambar deer in the Kangra and Hoshiarpur districts.

SABARÆ of Ptolemy are the Suari of Pliny, and both have been identified with the aboriginal Savara or Suari, now a wild race of wood-cutters who live in the mountainous parts of the north-eastern districts of Peninsular India. The Savari or Saharia of the Gwalior territory occupy the jungle on the Kotah frontier to the westward of Marwar and Guna.—*Cunn. Geog. of Ind.* p. 509. See Chensuar; Suar.

SABAT, amongst the Dyak race, adoption of a brother.

SABA'TA-AHRAF. ARAB. The seven dialects current in Arabia in the time of Mahomed,—the Quraish, Tai, Hawazin, Abl-i-yaman, Saqif, Huzail, and Bani Tamin.

SABATHU, in lat. 30° 51' N., and long. 76° 58' E., a military station a few miles N.E. of Simla. The cantonment is 4205 feet, and the fort is 4283 feet, above the sea.—*Ger.*

SABERNARIKA, properly Suvarnarika, a river that separates Bengal from Orissa, and opens into the Bay of Bengal.

SABHA. SANSK. A committee, any court, an assembly, a club. Sabha-mandap, HIND., a portico, or an erection in front of a Hindu temple where people assemble; the open space of a temple in front of the apartment of the idol; an audience hall, an assembly room; a sacred place or apartment in a Hindu temple. Sabhapati of Chilambara, a name of Siva.

SABLE.

Zobel, . . .	DA., GER., SW.	Sohol, . . .	Rus.
Zibellina, . . .	FR., IT.	Cebellina, . . .	Sr.
Zibellina, . . .	FOR.		

One of the weasels, *Mustela zibellina*, a native of Northern Europe and Siberia, with a fine fur, the hairs of which turn with equal ease in every direction. Its colour is generally of a deep glossy brown or black, and sometimes, though very rarely, yellow and white. Throughout the severity of a Siberian winter it retains its rich brown fur. It subsists on fruits and berries in winter, and on small birds. Bargouzine is famed for its sables; no skins have yet been found in any part of the world equal to them. The fur is of a deep jet-black, with the points of the hairs tipped with white,

and this constitutes their peculiar beauty. For a single skin a hunter demanded the sum of £18.—*Faulkner; Bingley; McCulloch.*

SABLE FISH of Europeans, the Willam-min of the Tamil, a species of Clupea.

SABZAH. ARAB. HIND. The large leaves and capsules of the hemp plant; also an intoxicating beverage prepared from them by washing them, and after drying, reducing them to powder with black pepper, cardamoms, and sometimes poppy, coriander, and melon seeds, and sugar, and then infusing the mixture in milk and water, or in cold water alone. Another recipe for this intoxicating liquor is Cannabis sativa or hemp leaves, with black pepper, cardamoms, poppy seeds, Cucumis utilisimus, and C. sativus. It exhilarates without injurious consequences.

SABZAWAR. The town and district of Sabzawar lies between that of Turbut-i-Hyderoc and Irak; since the death of Nadir Shah it has been in the possession of a chief of a Turkish tribe.—*Malcolm's Persia*, ii. p. 230.

SABZ-MITTI. HIND. An earth used to wash the hair.

SACÆ, Gete, Aswa, and Takshak are names which have crept in amongst the thirty-six royal Rajput races, common with others also to early civilisation in Europe. Sacæ are supposed by Professor Lassen to be the Szu Tartar who were expelled about B.C. 150 from the Ili valley by the Yue-tchi or White Huns, whom he supposes to be the Tochari. After occupying Tahia or Sogdiana for a time, they are stated by the Chinese to have been driven thence, also, by the Yengar some years afterwards, and to have established themselves in Kipen, in which name Lassen recognises the Koppen valley in Kohistan. The Sacæ country was Turkestan, and they seem to have been one of the Central Asia tribes to whom the vague term Scythian was applied. Little is known of the Sacæ and their migrations, but they seem to have been widely diffused, occupying and colonizing countries remote from Central Asia. It is well known to geographers that the Segistan of the Arabs, whence Seistan, is the same as the Sakestane or country of the Sacæ of the Greeks. The Sacæ are located by Strabo and Ptolemy on the north of the Himalaya, but they were also on the south. The Sacæ were known as Sakko on the banks of Cheban, in Assyria, and Sacæ are mentioned in the Behistun inscription. Tod states that Sacæ in Sanskrit has the aspirate, Sac'hæ, meaning literally the branches or tribes. This name frequently occurs in Hindu annals, and Colonel Tod believes that the Saka of the Hindu annals cannot be other than the Sacæ or Sakai of classical geography. They seem to have been known on the borders of India or in its western districts in the first century preceding Christianity. Vikramaditya, king of Ujjain, became known as the Sakari or conqueror of the Sacæ; and as his era dates B.C. 56, it would appear that about his time some northern tribes had settled themselves along the Indus, constituting the Indo-Scythi of Arrian. Their attempt to penetrate farther to the east, by way of Malwa, was not improbably arrested by Vikramaditya, whence the epithet Sakari. Some tribes penetrated early into India, making their way in force from the Hindu Kush into Orissa. —, have been supposed to give their names to the Sassani, Saxani, or Saxons. Sacæ or Buddhi

took possession of Kashmir, B.C. 340; some tribes opposed Alexander; others of the Sacæ overran India in the reign of Asoka, who, according to the Ain Akbari, were expelled by his successor Jaloka. The following passage occurs in D'Anville's *Eclaircissements Géographiques sur la carte de l'Inde*, p. 42: 'On ignore le temps auquel les Scythes sont venus occuper le Sindi. Dans le Périplo de la mer Erythrée, la ville de Minnagra, le même que Monsora, est qualifiée de capitale de la Scythie. Denys Périégète dit que les Scythes méridionaux habitent sur le fleuve Indus. Eustathe les nomme Indo-Scythes; et ce que Ptolémée appelle Indo-Scythie, remonte le long de l'Indus jusqu'au fleuve Coos.'

A tribe bearing the name of Sacæ is still found in Jhalawan. It is supposed that they are the descendants of Sacæ from between the Paropamisian mountains and the Sea of Aral who accompanied Alexander, and, returning with Craterus through the Moolla pass, settled in their present position.

Strabo says, 'All the tribes east of the Caspian are called Scythic, — the Dahæ next the sea, the Massagætæ (Great Gete), and Sacæ more eastward; but every tribe has a particular name. All are nomades, the best known being the Asi, Pasiani, Tachari, Saccarani, who took Bactria from the Greeks. Sacæ made in Asia irruptions similar to those of the Cimmerians; they possessed themselves of Bactria and the best district of Armenia, called after them Sacæenæ.' Of the first migrations of the Indo-Scythic Gete, Takshak and Asi, into India, that of Sehesnag (Takshak) from Sehesnagdes (Tacharisthan?) or Sehesnag country, six centuries, by calculation, B.C., is the first noticed by the Hindu Puranas. About this period a grand irruption of the same races conquered Asia Minor, and eventually Scandinavia; not long after, the Asi and Tachari overturned the Greek kingdom of Bactria, and the Romans felt the power of the Asi, the Catti, and Cimbri from the Baltic shore. The Asi and Tachari are the Aswa and Takshak, or Toorahka races of the Puranas of Sacæ-Dwipa. 'C'est vraisemblablement d'après le nom de Tachari, que M. D'Anville aura cru devoir placer les tribus ainsi dénommées dans le territoire qui s'appelle aujourd'hui Tokaristhan, situé, dit ce grand géographe, entre les montagnes et le Gihon ou Amou.' Bryant gives the following as a passage from Charilius in the history of the Sacæan Cuthites, of whose ancestry he speaks with great honour in describing the expedition of Alexander the Great:

'Next marched the Sacæ, fond of pastoral life,
Sprung from the Cuthite nomades, who lived
Amid the plains of Asia, rich in grain;
They from the shepherd race derived their source,
Those shepherds who in ancient times were deemed
The justest of mankind.'

A branch of the Sacæ on one occasion invaded the inhabitants on the borders of the Pontic sea; whilst engaged in dividing the booty, the Persian generals surprised them at night and exterminated them. To eternize the remembrance of this event, the Persians heaped up the earth round a rock in the plain where the battle was fought, on which they erected two temples, one to the goddess Anaitis, the other to the divinities Omanus and Anandate, and then founded the annual

festival called *Sacæa*, long celebrated by the possessors of Zela. Such is the account by some authors of the origin of *Sacæa*. According to others, it dates from the reign of Cyrus only. This prince, they say, having carried the war into the country of the *Sacæ* (*Massagetæ* of Herodotus), lost a battle. Compelled to fall back on his magazines, abundantly stored with provisions, but especially wine, and having halted some time to refresh his army, he departed before the enemy, feigning a flight, and leaving his camp standing full of provisions. The *Sacæ*, who pursued, reaching the abandoned camp stored with provisions, gave themselves up to debauch. Cyrus returned and surprised the inebriated and senseless barbarians. Some, buried in profound sleep, were easily massacred; others, occupied in drinking and dancing, without defence, fell into the hands of armed foes; so that all perished. The conqueror, attributing his success to divine protection, consecrated this day to the goddess honoured in his country, and decreed it should be called the day of the *Sacæa*. This is the battle related by Herodotus, to which Strabo alludes, between the Persian monarch and Tomyris, queen of the *Getæ*. Amongst the Rajput *Sachæ*, all grand battles attended with fatal results are termed *Saca*. When besieged, without hope of relief, in the last effort of despair, the women and girls are immolated, and the warriors, decorated in saffron robes, rush on inevitable destruction. This is to perform *saca*, where every branch (*sacha*) is cut off. *Chitore* has to boast of having thrice (and a half) suffered *saca*. *Chitore sach'ha ka pap*, 'by the sin of the sack of Chitore,' is the most solemn abjuration of the Gehlot Rajput. If such is the origin of the festival from the slaughter of the *Sacæ* of Tomyris, it will be allowed to strengthen the analogy between the *Sacæ* east and west of the Indus. The *Sakai* who settled in Armenia were named *Sacassani* (lib. vi. c. 19), Saxons, the *Sacosena* of Strabo (lit. xi. pp. 776-788).

Sacasenæ, the ancestors of the Saxon race, dwelt in Armenia, on the confines of Albania. 'La *Sacasene*,' says a French author, 'etoit une contree de l'Armenie sur les confins de l'Albanie ou du Shirvan' (note 4, tome i. p. 191, Strabon).

This Scythic race adored the solar divinity under the name of *Gæto-Syrus*, the *Surya* of the *Sacha* Rajputs.—*Rennell's Memoir*, p. 185; *Iadore Char. in Hudson's Geog. Memoirs*, ii., quoted in *Ed. Ferrier Jour.* p. 428; *Hind. Theat.* ii. p. 179; *Tod's Rajasthan*, i. pp. 70, 164, quoting *Strabo*, lib. xi. p. 254; *Indian Infanticide*, p. 16; *Turner's Anglo-Saxons*; *Hallam*. See *Afghan*.

SACAM, or the White Island, mentioned in the *Puranas*, is England. It is mentioned in the *Varaha Purana* as in the possession of the *Sacæ*.—*Wilford*.

SACAMBARI or *Sacambhari*, a goddess, the tutelary divinity of the Chauhan tribes, whose statue is in the middle of a lake. Colonel *Tod* derives *Sacambhari* from *Sacam*, the plural of *Sachæ*, 'branch or race,' and *Ambhar*, 'covering, protecting.' The invocation is *Om! Sacambhari Mata! Om!*—*Tod's Rajasthan*, i. p. 95.

SACCHARUM, a genus of plants of the natural order *Panicacæ* and section *Saccharæ*. There are many species of the genus, all growing

in warm countries, and those better known may be thus enumerated:—

- S. canaliculatum*, *Roxb.*, of Bengal.
- S. cylindricum*, *Roxb.*, Ajmir.
- S. fuscum*, *Roxb.*, Ajmir.
- S. munja*, *Roxb.*, Hindustan, Sind.
- S. officinarum*, *Linn.*, E. Indies, China, W. Indies, Africa.
- S. procerum*, *Roxb.*, Bengal.
- S. sara*, *Roxb.*, Bengal.
- S. semi-decumbens*, *Roxb.*, Bengal.
- S. Sinense*, *Roxb.*, China, India.
- S. spontaneum*, *Linn.*, S. Asia.
- S. violaceum*, *Tussac*, Polynesia.

Some of the species, owing to the silex in their cuticle, are so durable that they are employed in India for thatching, such as *S. canaliculatum*, *S. cylindricum*, and *S. spontaneum*, which also make good mats. The natives of Bengal make their pens of the narrow stems of *S. semi-decumbens*, *S. sara*, and *S. fuscum*. The last, as well as the culms of *S. procerum*, are also used for screens and other economical purposes. *S. officinarum* is the sugar-cane, from which is produced a large quantity of the sugar used by man. It is a native of the south and west of Asia, and was introduced by the Saracens into the south of Europe. It has several varieties, of which one is the—

Saccharum commune, or native cane of West Indies,

- β *S. purpureum*, Kajuli, of Bengal.
- γ *S. giganteum*, Khulosa, of Bengal.
- δ *S. Tahitense*, Otaheite cane.

Two other species yielding sugar are—

Saccharum violaceum, *Tussac*, said to be identical with the Otaheite cane.

Saccharum Sinense, *Roxb.*, cultivated in China.

Saccharum cylindricum, *Roxb.*

Saguerus cylindrica, Horse's tail grass.

Oola, HIND. | Baroom hiss, . . . TEL.

Grows on the Ajmir plains, and flowers early in the rains; also all over Bengal.—*Roxb.* i. p. 234.

Saccharum fuscum, *Roxb.*

Khori, BENG. | Ishwalika, SANSK.
Pati kori, " | Kandu rellu gaddi, . TEL.

Grows in Bengal. Natives make their pens of its culms, and also use it for screens and light fences. The best dark-coloured reeds with which the natives write are made from this species.

Saccharum munja, *Roxb.*

Sur-pata, HIND. | Sirki, SIND.
Surr, SIND. | Ponika, Munja gaddi, TEL.

This grass grows throughout India, but in the Panjab it covers immense tracts of inundated lands, and forms the chief difficulty of the agriculturist, as it rapidly encroaches on the cultivation. Ropes made from its sheathing petiole are possessed of great tenacity, and used as rigging in all the vessels above Sukkur, also as tow-ropes for tying up cattle, for drawing water, and for tying on the buckets of Persian wells. The twine made from it is used for the bottoms of bedsteads. The plant grows at Benares, all over Oudh, and in Northern Circars; is common at Ajmir, in the valleys, and very abundant, along with *S. procerum*, near Jeyapore. The best munj rope is made from the floral leaves of this plant, and the best sirki rope from the culms. The plant is distinguished from *S. procerum* by its inferior height, the fineness of the culm, and narrowness of the leaves. Two-inch ropes, often 50 fathoms

in length, are made of its fibres, being sufficient for dragging the largest 1200-maund boats up the Indus, and consequently against the full force of the stream, even round projecting points. The rope is light, bears without injury alternate exposure to wet and to subsequent drying. Plants growing beyond the range of the overflows of the river, or of the influence of the tides, are best. The upper leaves, about a foot or so in length, are preferred and collected. They are made up into bundles, and are kept for use. When required for twisting into rope, they are first moistened in water, then, two men sitting opposite to each other, take one of these moist bundles and beat it alternately with mallets, until the loose cellular are separated from the fibrous parts. These are then ready for twisting into the ropes which are so extensively employed on the Indus. A continuation of the same process, or the employment of the dhenki, would afford a very ample supply of half-stuff for paper-makers, and at a cheap rate. If the rope is not occasionally wetted, and allowed to become too dry, it easily breaks when used. The prepared fibre costs two rupees per maund. It was latterly being exported from Kurachee, and brings £5 to £8 per ton.—*Roxb.; Voigt; Irvine, p. 175.*

Saccharum officinarum, *Linn.*, Sugar-cane.

Kussch-us-sukr, . . .	ARAB.	Kamand, Paunda, . . .	PANJ.
Muddar, Jend?, . . .	"	Nai-sukr, . . .	PERS.
Uk, Ik, Akh, . . .	BENG.	Ko, SANDWICH ISLANDS.	
Uk'h, Ukyo, . . .	"	Ichutunda, . . .	SANSK.
Kyan, . . .	BURM.	Ikelu, Pundra, . . .	"
Kan-chi, . . .	CHIN.	Rusala, . . .	"
Ghah, . . .	EGYPT.	Tubu, . . .	TAG.
Tau, . . .	FLORES ISLAND.	Karimbu, . . .	TAM.
Us, U'oh, Ghanna, . . .	HIND.	Oheruku, . . .	TEL.
Khuloo, Kajuli, . . .	"	Kanupulu cheruku, . . .	"
Turo, . . .	KYAN OF BORNEO.	Aru, Lavu, . . .	"
Tabu, . . .	MALAY OF JAVA.	Potti, Tella, . . .	"
Karimba, . . .	MALEAL.	Aru - Kranupula . . .	"
To, MARQUESAS, TAHITI.	"	kranuga, . . .	"

This species of the sugar-cane is supposed to be a native of the East Indies, and to have spread from there to other countries, into Africa, the south of Europe, the Canaries, N. and S. America, and the West Indies. A considerable portion of the sugar of commerce is manufactured from this species, but the *S. violaceum* is now extensively cultivated, and in the tropics the juices of the palmyra and phoenix palms are also largely converted into sugar. In Europe, from beet-root.

The sugar-cane was introduced by the Saracens into the south of Europe, but the period is not well ascertained. Gibbon says they introduced it into Sicily soon after they got possession of the island. About the year 1420, it was much cultivated by the Portuguese in Madeira. In 1503 we read of sugar being imported from the Canaries, and in 1506 sugar-canes were carried thence to Hispaniola in the West Indies. But besides the Indian cane, another, and a much more prolific kind, that of Otaheite, was introduced into the West Indies about 1794; and about the same time, or in 1796, the China sugar-cane was introduced into India. The Chinese and Indians seem both, therefore, to have had distinct plants from which they could extract sugar; and, as history shows, they did so at very early periods. The Otaheite sugar-cane has been introduced from the Mauritius into India, and rapidly spread through the country. It is no doubt the same species that was introduced into the West

Indies in 1794. It is probably the *Canne de Haite* of Tussac, or *S. violaceum*. *S. officinarum*, in the United States, is profitably cultivated up to lat. 32° N.; in China, to 30° N.; in Japan, up to 36° N. The yield in Japan of raw sugar is 3300 lbs. an acre.—*Roxb.; Voigt.*

Saccharum procerum, *Roxb.*

Sirkunda, . . . HIND. | Sarkara, Sirk, . . . HIND.

Grows 20 feet high in India, and is very abundant everywhere on the sandy ridges and plains. In November, when in full flower, it is highly ornamental. The leaf (sarpat) is used for thatch; the lower part of the stem (santha, also sirkunda) is used for screens (chik) and low stools (mondha); the upper and tapering portion of the stem (sirk) is made into fans, mats, sieves, and for thatch, and to cover carts in the rainy season; the sheaths (munj) are dried and beaten, and made into twine and ropes; the flower, tied in bunches, is the house broom. The floral leaves are made into 'munj,' separating the fibres by beating the leaves; this is very much used to make string and rope.—*Roxb. i. p. 243; Irvine.*

Saccharum sara, *Roxb.*, Pen reed.

Shur, Sura, Sar, . . .	HIND.	Gundra, . . .	SANSK., TEL.
Sara, Gundra, . . .	"	Sarut, . . .	SUTLEJ, RAVI.
Sar-pat, Sarar, . . .	"	Kanda, . . .	PANJ.
Sarkara, . . .	"	Kura, Karro, . . .	"
Jhund, . . .	PANJ.	Sacha, Darga, . . .	TR.-INDUS.

Common in the plains of India. Its culms are finer and stronger than those of *S. procerum*, and when obtainable are used to make arrows of in preference to the other species; it is also used for the common 'kalm' or reed pen with which in India Arabic, Persian, and other characters are written; it is said to be beaten into a rude fibre and then twisted into a rope. Mr. Henly informed Dr. Royle that the pen-reed grass is employed as a tow-line by the boatmen about Allahabad and Mirzapore, and esteemed there for strength and durability, even when exposed to the action of water.—*Roxb.; Irvine; Voigt; Royle.*

Saccharum semi-decumbens, *Roxb.*

Khor, Khuree, . . .	BENG.	Tat, Neja, . . .	HIND.
The Grass—Mora, . . .	HIND.	The Culm—Kelik, . . .	HIND.

The culms are used for screens and pens. It is a native of Bengal, where it delights in low, wet places, blossoms about the close of the rains and the beginning of the cold season.—*Roxb.*

Saccharum Sinense, *Roxb.* A plant introduced from China, named by Dr. Roxburgh. It was extensively distributed throughout India, and still is grown to some extent, as the canes are large, rich in juice, and hard enough to resist the attacks of the white ants. Its culms are from 6 to 10 feet high. Leaves flat, with margins hispid.—*Roxb.*

Saccharum spicatum is the Mau-ken of the Chinese.

Saccharum spontaneum, *Linn.*, Thatch grass.

<i>S. biflorum</i> , <i>Forsk.</i> . . .	|	<i>Imperata spontanea</i> , <i>Trin.</i>	
Kash, Kashiya, . . .	BENG.	Kan, . . .	MANIL, PANJ.
Thek-kay-gyi, . . .	BURM.	Kahu, . . .	SIND.
Kasa, Kus, . . .	HIND.	Relu-gaddi, . . .	TEL.
Kasha, Kagara, . . .	"	Kaki veduru, . . .	"

This grass grows in every part of India; is common on islands, etc., and when in blossom in the rains has a beautiful silvery appearance. Brooms are made of the culms, string of its leaves, and the whole is used to thatch with. Elephants, horses, and horned cattle do not object to it as fodder. It grows from 3 to 15 feet high,

and it flowers in great profusion after the rains. A familiar couplet, in which the hunger and avarice of Brahmans are sportively alluded to, shows the correct pronunciation, as well as the season of its flowering—

'Ayo kunagut phoolo cas
Bamhan bueth'he choolhe pas.'

'The time (kuar) for performing the ceremony in honour of deceased ancestors has arrived, the cas is in flower, and Brahmans surround the fire-place.—*Stewart; Mason; Irvine; Roxb.; Elliot.*

Saccharum violaceum, Tussac.

Otaheite sugar-cane, ENG.	Turo, . . . KYAN OF BORNEO.
Tan, . . . FLORES ISLANDS.	Tabu, Tabu, . . . MALAY.
Khush-bas, . . . HIND.	To, MARQUESAS, TAHITI.
Ghanna, Rickhu, . . . "	Ko, SANDWICH ISLANDS.
Puna, Ponda, . . . "	

The sugar-cane plant of Polynesia is grown in India, and is abundantly cultivated in the Saharunpur district; it gives a larger percentage of sugar, but it is objected to by the natives as being too hard for the pressure of the native mill; it is therefore principally cultivated for eating. In the Dehra Doon it has with much advantage been extensively cultivated for making sugar, but it is there pressed with European mills.—*M. E. J. R.; Royle, Ind. Fibres; Cal. Cat. Ex., 1862; Powell; J. A. Murray; Smith; Von Mueller.*

SACCOLABIUM, a genus of Asiatic plants belonging to the natural order Orchidaceæ; found in the Indian Archipelago, the Malay Peninsula, and thence extending north along the Himalayan mountains to lat. 30° 4' N., where *S. guttatum* is found on trees, as well as in more southern latitudes. The genus consists of caulescent epiphytes, with two-rowed coriaceous leaves, which are often oblique at the apex. The flowers are axillary, and either racemose or solitary. The following species are known:—

<i>S. calceolare, Lindl., N. E. India.</i>	<i>S. papillosum, Lindl., Burma.</i>
<i>S. carinatum, Wall., Khassya.</i>	<i>S. retusum, N. E. India.</i>
<i>S. guttatum, W. Ic.</i>	<i>S. Rheedii, W. Ic.</i>
<i>S. micranthum, Lindl., N. E. India.</i>	<i>S. rigidulum, Wall., Khassya.</i>
<i>S. niveum, W. Ic.</i>	<i>S. rubrum, W. Ic.</i>
<i>S. peniculatum, W. Ic.</i>	<i>S. speciosum, W. Ic.</i>
	<i>S. Wightianum, W. Ic.</i>

These orchids are largely cultivated for their beauty. Their generic name has been applied to them from their lip forming a bag or spur.

Saccolabium papillosum, Lindl.

Cymbidium premorsum, Swz.
Epidendrum premorsum, Roxb.
Acrides undulatum, Sm.

Grows in the Circars and in Burma.

Saccolabium retusum.

<i>Epidendrum retusum, L.</i>	<i>Aerides retusum, Swz.</i>
<i>Limodorum retusum, Swz.</i>	<i>A. guttatum, Roxb.</i>
<i>Sarcanthus guttatus, Lind.</i>	<i>Mo ma khan, . . . BURM.</i>

This, one of the noblest orchids in the Tenasserim Provinces, is profusely multiplied in the neighbourhood of Moulmein; grows in Java, Peninsula of India, Chittagong, Dacca, Khassya, Nepal, Burma, Tenasserim. The flowers are numerous, white, spotted with rose-violet, and stand on little pedicles all around the stalk, so as to form an elegant plume sometimes a foot long, which gives the trees on which they grow a most princely appearance.—*Mason; W. Ic.; Voigt.*

SACCOPE TALUM TOMENTOSUM. H. f.

Uvaria tomentosa, Roxb. | Kirna, . . . HIND.

A tall, handsome, good-sized tree of very straight growth, of the order Anonaceæ, not uncommon about the foot of the Ghats on the western side of the Madras Presidency, and also found in Chanda, Central Provinces, the Konkan, Behar, Orissa, and Nepal. Another species, *S. longiflorum, H. f. et T.*, occurs in Eastern Bengal.—*Beddome, Fl. Sylv.*

SACHIN, a Native State in Gujerat; area about 300 square miles; pop. (1872), 18,061; gross revenue, £15,983. The nawab of Sachin is of African descent, known in India as Sidi and Habshi or Abyssinian. His ancestors were known as the Sidi of Dauda, Rajapur, and Janjira. They were the admirals of the fleets of the Ahmदनagur and Bijapur dynasties, and subsequently of the emperors of Delhi, being appointed to that office by Aurangzeb about the year 1660, with an annual assignment of £30,000 on the Surat revenues. On the decline of the Moghul power, the Sidis of Janjira became notorious pirates, plundering the ships of all nations except those of the English, whose friendship they appear to have early cultivated. They held the island of Janjira during the wars between Sivaji and the Moghuls, also during the war between the Peshwa and the British Government. Towards the end of the 18th century, the heir, Balu, had been expelled from his dominions by a younger branch of the family (1784-91). He appealed for aid to the Mahrattas and British, and an arrangement was come to in 1791 by which Balu ceded Janjira to the Peshwa in return for Sachin. Balu duly got possession of Sachin; but when the Peshwa claimed Janjira, the Sidis who held it succeeded in maintaining their independence. Sachin has remained in the hands of Balu and his descendants, while Janjira is still held by the younger branch of the family who had ousted Balu. Janjira is reckoned a maiden fortress to this day.—*Imp. Gaz.; Aitcheson's Treaties, iv. p. 324, ed. 1876.*

SACHUQ-ke-MATKIAN. HIND. Earthen pots painted, in which the barri or bridal apparatus are conveyed in a Muhammadan marriage ceremony.

SACKCLOTH, a coarse cloth from any coarse fibre. 'They would have repented long ago in sackcloth and ashes,' says Matthew xi. 21. Many Hindu mendicants cover themselves with coarse cloth and ashes, after renouncing a secular life.

SACONTALA, or the Lost Ring, by Kalidasa, is a Sanskrit drama, first translated into English in 1789, and again translated in 1855 into English by Mr. Monier Williams from the Sanskrit of Kalidasa.

SACRED.

Maqaddas, ARAB.	HIND.	Sacro, Sacrato, . . . IT.
Sacré, FR.	Sagrado, SP.	
Heilig, GER.		

Terms synonymous with this English word are applied in Asia to individuals, animals, books, places, stones, and plants.

Sacred books of the East is a title under which, towards the latter part of the 19th century, several of the orientalist of Europe published translations of books relating to the religions of the Eastern Asiatic races,—Hindus, Buddhists, Zoroastrians, Chinese, and Muhammadans. These have been edited by Professor F. Max Muller, who translated the Hindu Upanishads and the Dhammapada.

Georg Böhler translated the Apastambha and

Gautama, also the Vasishtha Baudhayana, the sacred laws of the Aryas.

James Legge translated the texts of Confucius, the Shu-king, the religious portions of the Shih-king, and the Hsiao-king.

E. W. West translated Pahlavi texts, Vendidad and Zendavesta were translated by James Darmesteter, Julius Jolly translated the Institutes of Vishnu, and T. W. Rhys Davids translated Buddhist Suttas from the Pali. V. Fausbøll translated the Sutta Nipata, Julius Eggeling the Satapatha Brahmana, K. T. Telang the Bhagavat Gita, Sanatsugiya, and Anugita.

At the same time has been appearing translations of other sacred books. Of these may be mentioned the Udanavarga from the Tibetan by W. W. Rockhill,—it is the Northern Buddhist version of Dhammapada; Le Pantheon Egyptien, by Paul Pierret, conservator of the Egyptian Museum of the Louvre; the Clarendon Society published a catalogue of the Buddhist Scriptures; lectures on Buddhist literature in China were delivered and published by Samuel Beal; A. P. Sinnett wrote on Esoteric Buddhism.

Dr. H. Oidenberg wrote on Buddha, his life, his doctrine, and his order.

Mr. Rhys Davids issued a volume on Buddhist birth stories or Jataka tales. It was a translation of the Jattakatt'havannana, the oldest collection of folk-lore extant.

T. W. Rhys Davids and H. Oidenberg translated the Vinaya texts, viz. Patimokha, Mahavagga, and Kullavagga.

The Yi-king or Yh-king, the oldest book of the Chinese, was translated by Terrien de la Couperie.

A. E. Gough, M.A., wrote on the philosophy of the Upanishads and ancient Indian metaphysics.

Dr. C. P. Tiele wrote a history of the Egyptian religion, which James Ballingal translated from the Dutch.

Samuel Beal translated the Fo Sho Hing Tsanking. E. H. Palmer translated the Koran.

The Vedas and the Puranas are the sacred books of the Hindu religion. The sacred books of the Christian religion are designated the Old and New Testament, or, collectively, the Bible. The Old Testament inculcates monotheism, and gives a history of the Hebrews for about 2000 years, to B.C. 500. The New Testament gives a history of John the Baptist, and of Jesus, the Christ, the Messiah or Anointed, of His teachings, His doctrines, and those of His disciples. It was written in Greek, but was early rendered into Latin. Protestant missionary bodies have translated the Old and the New Testaments into nearly all written tongues, and into many languages which previously had no scriptory character, and millions of copies have been published. In many instances these sacred books have given a form to the various spoken dialects of a language without a literature.

The Sacred cities of the Hindus, sacred rivers, and sacred sites are exceedingly numerous, and at most of them they have erected the temples for their religion. Sacred cities of the Brahmanical Hindus, twelve in number, are—

1. Bhimasankar, at the source of the Bhima, N.W. of Poona.
2. Ellora.
3. Kedaraswar, in the Himalaya.
4. Mahakala, at Ujjain.
5. Mallikarjuna, on Srishaila mountain, in the S. of India.

6. Omkara, on an island in the Nerbadda.
7. Naganath, E. of Ahmadrnagpur.
8. Rameswara, on an island opposite Ceylon.
9. Trimbuk, near Naajik.
10. Somnath, in Kattyawar.
11. Vaidynath, in the Bombay Dekhan.
12. Viswanath, in Benares.

Besides these twelve, Srirangam, near Trichinopoly, Benares, Puri, where Jaganath is, Badrinath in the Himalaya, Conjeveram and Tripati in North Arcot, with Dwarka, Gaya, and Mathura, may be indicated as sacred towns; and the Ganges, Brahmaputra, Godavery, Kistna, and Cauvery among the rivers, and hundreds of thousands annually visit them. Govardhana mountain is sacred to the Hindus, and Palitana to the Jains. Mount Meru and Mount Kailasa of the Himalaya are famed in Hindu mythology.

Sir George Birdwood mentions, in particular, other sacred cities of the Hindus,—Ayodhya or Oudh, the city of Rama; Mathura or Muttra, the city of Krishna; Maya or Buddha Gaya; Kasi or Benares, the city of Siva as Visveswara; Kanchi or Conjeveram; Avanti or Avantika or Ujjayini and Dwaraka or Dharawati; Gao-karna or Cow's Ear, near Mangalore; Rameswaram; Somnath and Pathan.

Jerusalem is sacred to Jews, Christians, and Muhammadans, and the last-named designate it Bait-ul-Maqaddas; with them Mecca is called Bait Ullahil-harām, the holy house of God; and with them Karbala, Medina, and Meshid also are holy cities, which are resorted to by pilgrims from all Asia and Africa.

Sacred fires are kept up by the Agnihotra Brahmins of India, and by the Parsee or Zoroastrian religionists. The Brahmanic families who keep up the sacred fires are supposed descendants from the seven Rishi,—Bhrigu, Angoras, Visvamisra, Vasishtha, Kasyapa, Atri, Agastya; but Jamadagni, Gautama, and Bharadwaja are also enumerated.

Sacred plants among the Hindus are numerous; their flowers are offered up to their idols, their seeds are used for rosaries, etc., and their gums as incense.

The Sij plant, Euphorbia, is the god of a race in Assam.

The Jews, about the 12th to the 3d century B.C., largely followed surrounding nations in their worship in the groves.

The sacred grove of oaks at Dodona, supposed to have been planted by the Pelasgi, existed till the time of Constantine. Their branches were hung with bells, sacred pigeons rustled amidst the leaves. The laurel of Apollo at Delphi was sacred like the oak at Dodona. Under the laurel's shade the python took refuge.

Modern Hindus restrict their reverence to individual plants, some of them being sacred to Siva and some to Vishnu and their avatars; and the following are those chiefly regarded:—

Achyranthes aspera.
Egle marmelos.
Echinomene sesban.
Afzelia bijuga.
Antenaria, sp.
Aplotaxis gossypina.
Artemisia astriaka.
Aucklandia costus.
Barringtonia acutangula.
Bauhinia variegata.
Betula bhojputra.

Borassus flabelliformis.
Buchanania latifolia.
Butea frondosa.
Calophyllum inophyllum.
Calotropis gigantea.
Cedrus deodara.
Chamerops Ritchiana.
Chrysanthemum Indicum.
Clitoria ternatea.
Cupressus torulosa.
Cynodon dactylon.

Dalbergia sisec.
Daphne cannabina.
Datura fastuosa.
Delphinium brunonianum.
Dolomia macr.
Echites caryophyllata.
Erythrina fulgens.
Euphorbia, sp.
Ficus Indica.
F. glomerata.
F. religiosa.
F. venosa.
Gardenia florida.
Gartnera racemosa.
Guettarda speciosa.
Helianthus annuus.
Hernandia sonora.
Hibiscus Phoeniceus.
H. rosa Sinensis.
Jasminum, sp.
Jonesia asoc.
Justicia adhatoda.
Juniperus communis.
J. excoela.
Kupatius, sp.
Limonia scandens.
Melia azedarach.
M. sempervirens.
Monispermum glabrum.
Mesua ferrea.

Michelia champaca.
Mimusops elengi.
Morinda multiflora.
Murraya exotica.
Nauclea cadamba.
Nelumbium speciosum.
Nerium odorum.
Nymphaea esculentum.
Ocimum sanctum.
Origanum marjoranum.
Poa cynosuroides.
Poinciana pulcherrima.
Pollanthes tuberosa.
Populus balsamifera.
Prosopis spiciogera.
Pterospermum acerifolium.
Pt. suberifolium.
Putranjiva Roxburghii.
Rhododendron arboreum.
Rosa, sp.
Saussurea obvallata.
S. sacra.
S. soroccephala.
Seneio laciniosa.
Tagetes erecta.
T. patula.
T. populnea.
Tabernaemontana coriarea.

SACRED BEETLE, *Ateuchus sanctus*. See Insects.

SACRIFICE.

Fida, Sadqa, . . .	ARAB.	Sagrificio,	IT.
Tasaduq,		Sacrificio, IT., PORT., SP.	
Libation, Oblation,	ENG.	Sacrificium,	LAT.
Opfernd,	GER.	Med'h,	SANSK.
Kurban,	HEB.	Bali,	TAM.
Sacrificio, Sacrificio,	IT.	Gao,	TEL.

A sacrifice is an offering of any consecrated thing to a deity, whether an animal, anything of the mineral or vegetable world, a manufactured article, or in the form of a libation or an oblation. All nations seem to have had a stage in their history in which to make offerings in sacrifice formed a part of their mode of worshipping the deity whom they revered. The earliest extant record of sacrifices are those recorded in Genesis iv. 3, 4, in the cases of Cain and Abel, where Cain, a cultivator, brought of the fruit of the ground an offering to the Lord, and Abel, who was a nomade, a keeper of sheep, brought of the firstlings of his flock and of the fat thereof, and it is mentioned that the Lord had respect unto Abel and to his offering, but unto Cain and to his offering he had not respect; so even in those early days in the history of the human race, the blood sacrifice, the oblation, and immolation of animals was deemed by the offerer more worthy of the deity's acceptance than the fruits and flowers of the earth. The contest marks the jealous rivalry and strife between the powerful, over-bearing dwellers in cities who bear arms and till the ground, and the nomade shepherds. The first victim was Abel, but the struggle runs through the whole history of Asia, and continues amongst the races and sects of India at the present day. The view seems to have been that the most precious thing should be offered, with the object of propitiating a wrathful being, and there followed on this the offering up of human beings, of the children of the sacrificer, the children of kings, though criminals, captives taken in war, slaves, and even women were also sacrificed.

The duty of offering to the Lord of the first of every product has had almost a universal hold on

man. Exodus xxii. 29 commands the offer of the first fruits; the same is enjoined in Deuteronomy xvi. 2; Leviticus ii. 12, and numerous other places. Genesis iv. 4 tells us that Abel brought the first of his flock, and Exodus xiii. 12 and other places enjoin this, and to the present day in the villages around Chingleput the first-born daughters in the Hindu weaver families are devoted as deva-dasa to the gods of their temples. A conscientious Hindu, before he eats, offers his food to his guardian deity, using some such words as these, 'This food, O God, I present to thee.' A Hindu shopkeeper, also, gives his god credit in his daily accounts for a sum which may amount to the twentieth of a halfpenny.

Dr. Milman considers that in the Hebrew religion the rite of sacrifice was regulated with three distinct objects. Every morning and every evening the smoke from the great brazen altar of burnt-offerings ascended in the name of the whole people. On the seventh day, two animals instead of one were slain, and the offering of the poorest was acceptable. The sacrifices were partly voluntary acts of reverence in order to secure the favour of God to the devout worshipper; partly expressive of gratitude for the divine blessings. Of this nature were the first fruits, and whether reaping the harvest or gathering in the vintage, the Israelite made an oblation of thanksgiving to the gracious Being who had bestowed His bounty. Lastly, the Hebrew sacrifices were piacular or expiatory; every sin either of the nation or the individual had its appointed atonement. The tenth day of the seventh month was set apart for the solemn rite of national expiation. First a bullock was to be slain and the blood sprinkled, not only in the customary places, but within the Holy of Holies itself. Then two goats were chosen, and lots cast upon them; the one assigned to the Lord was sacrificed; on the other, by the imprecation of the high priest, the sins of the whole people were heaped, and it was then taken beyond the camp and sent into the desert to Azazel, the spirit of evil to whom Hebrew belief assigned the waste and howling wilderness as his earthly dwelling. But in the fanatic zeal of the Jews, great excesses occurred. In the time of Solomon an instance (2 Chronicles vii. 5) is recorded of the sacrifice of 22,000 oxen. It was left to Isaiah (i. 10-14) openly to denounce the sacrifice of animals as an atonement for sin: 'Hear the word of the Lord, ye rulers of Sodom; give ear unto the law of our God, ye people of Gomorrah: to what purpose is the multitude of your sacrifices unto me? saith the Lord: I am full of the burnt-offerings of rams, and the fat of fed beasts; and I delight not in the blood of bullocks, or of lambs, or of he-goats. When ye come to appear before me, who hath required this at your hand, to tread my courts? Bring no more vain oblations; incense is an abomination unto me; the new moons and Sabbaths, the calling of assemblies, I cannot away with; it is iniquity, even the solemn meeting: Your new moons and your appointed feasts my soul hateth: they are a trouble unto me; I am weary to bear them.'

As might be supposed from the sacrificial rites amongst the Jews, allusions to such are to be found in the New Testament (Mark vii. 11): 'But ye say, If a man shall say unto his father or

mother, it is Corban (that is to say, a gift), by whatsoever thou mightest be profited by me; he shall be free.' This word is equivalent to Sadqa or Tasaduq or Fida, and is often used by Muhammadan men or women addressing a superior, in which case it means merely, I am your Kurban. The word is Arabic, derived from the Hebrew, has allusion to an approaching to God, and means a sacrifice, a victim, an offering, an oblation, for which also we have the Greek *καρποφαια*. The other words, in the Arabic, Sadqa, Fida, and Tasaduq, mark the continuance of the sacrificial rite. Sadqa, ARAB., properly Sadaga, from the Hebrew, means alms, propitiatory offerings, and sacrifices. The words are continued into Hindustani, in Sadqe-jana or Sadqe-hona, to become a sacrifice for the welfare of another, and Sadqe-karna, to sacrifice for the welfare of another.

Animal sacrifices seem to have been a usual rite amongst all the Scythian races. Some branches of this great stock appear to have wandered so far from their northern seats as the Peninsula of India, in the most southern parts of which are found great numbers of cromlechs, kistvaens, and cairns. All around Hyderabad, in the Dekhan, these are to be seen, and at one place about 12 miles from that city is a vast site of these ancient dead. In all the cairns that have been opened there, sepulchral urns have been found, and in their neighbourhood human bones and bones of animals. Of the race who adopted that form of burial nothing is now known; but they were nomades, dwelling in tents, the stone wall enclosures for each tent being perfect, and within the enclosures there are no mounds of ruined houses, but in all merely a level space.

Professor Max Müller reminds us of what we read in Herodotus (v. 5), that amongst the Thracians it was usual after the death of a man to find out who had been the most beloved of his wives, and to sacrifice her upon the tomb. Mela (ii. 2) gives the same as the general custom of the Getæ line. Herodotus (iv. 71) asserts a similar fact of the Scythians, and Pausanias (iv. 2) of the Greeks.

Amongst the Aryan races who went to the north-west, there are no grounds for believing that the Saxons continued to offer human sacrifices after their settlement in Great Britain, but in their own land the immolation of captives in honour of their gods was by no means uncommon. The great temple at Upsal, in Sweden, appears to have been especially dedicated to Odin, Thor, and Friya. Its periodical festivals were accompanied by different degrees of conviviality and licence, in which human sacrifices were rarely wanting, varied in their number and value by the supposed exigency. On some occasions even royal blood was selected that the imagined anger of the gods might be appeased.

The Massageta, the Scythian, the Getæ, the Sarmatian, all the various nations upon the Baltic, particularly the Suevi and Scandinavians, held it as a fixed principle that their happiness and security could not be obtained but at the expense of the lives of others. Their chief gods were Thor and Woden, whom they thought they could never sufficiently glut with blood. They had many very celebrated places of worship, especially in the island of Rugen, near the mouth of the Oder, and in Zealand. Some, too, very

famous among the Sumnones and Nahanvalli. But the most revered of all, and the most frequented, was at Upsal, where there was every year a grand celebration, which continued for nine days. During this term they sacrificed animals of all sorts, but the most acceptable victims and the most numerous were men. Of these sacrifices none were esteemed so auspicious and salutary as a sacrifice of the prince of the country. When the lot fell for the king to die, it was received with universal acclamations and every expression of joy, as it once happened in the time of a famine, when they cast lots, and it fell to the king Domalder to be the people's victim, and he was accordingly put to death. Olaus Triliger, another prince, was burnt alive to Woden. They did not spare their own children. Harold, the son of Gunild, the first of that name, slew two of his children to obtain a storm of wind. 'He did not let,' says Verstegan, 'to sacrifice two of his sons unto these idols, to the end he might obtain of them such a tempest at sea as should break and disperse the shipping of Harold, king of Denmark.' Saxo Grammaticus mentions a like fact; he calls the king Haquin, and speaks of the persons put to death as two very hopeful young princes.

Tacitus takes notice of the cruelty of the Hermanduri in a war with the Catti, wherein they had greatly the advantage, at the close of which they made one general sacrifice of all that were taken in battle. The poor remains of the legions under Varrus suffered in some degree the same fate.

Human sacrifice, Buusen says, was abolished by the Egyptians, in the very earliest times, declaring it to be an abomination to the gods. Whereas in Palestine, in Syria, and in cultivated Phœnicia and Carthage, such sacrifices continued to be offered to Moloch as the very climax of religious worship. Even Rome, in the time of her Cæsars, buried her Gallic prisoners alive, in order to appease the wrath of their gods. Many of the kings of Judah and Israel caused their children to pass through the fire. The Greeks also were not free from these atrocities. Chap. xi. of Judges tells how Jephthah, when he invaded the country of the Ammonites, vowed a vow unto the Lord, and said, 'If thou shalt without fail deliver the children of Ammon into mine hands, then it shall be, that whatsoever cometh forth of the doors of my house to meet me, when I return in peace from the children of Ammon, shall surely be the Lord's, and I will offer it up for a burnt-offering. . . . And Jephthah came to Mizpeh unto his house, and, behold, his daughter came out to meet him with timbrels and with dances. . . . And he said, Alas my daughter! . . . I have opened my mouth unto the Lord, and I cannot go back. . . . And it came to pass, at the end of two months, that she returned unto her father, who did with her according to his vow which he had vowed: and she knew no man.' Jeremiah xix. 4, 5, shows, says Dr. Milman, that in later times human sacrifices were offered by the Jews to Moloch and to Baal. Abraham, when commanded to cut off that life on which all the splendid promises of the Almighty seemed to depend, he obeys and sets forth with his unsuspecting child to offer the fatal sacrifice on Mount Moriah. Besides the common worship of Moloch, the Book of Kings names the Sepharvites as making these human sacrifices

(2 Kings xvii. 31), and the king of Moab (2 Kings iii. 27). It was a Babylonian and Assyrian rite. Filial sacrifices were doubtless of rare and extraordinary occurrence, either to expiate some dreadful guilt, to avert the imminent vengeance of an offended deity, or to extort his blessing on some important enterprise. But Hannibal sacrificed 3000 Grecian prisoners on the field of Himera, where his grandfather Hamilkar had been slain 70 years before.

Sale's Koran contains evidence of the practice of infanticide, but assimilating more than in any other case with the custom of the Jahreja race of Cutch and Kattyawar. This barbarity seems to have been confined to the female infants, as is the case with the Jahreja; and it is remarkable that the difficulty of providing for them in marriage, or the apprehension of their conduct disgracing their parents, is assigned in both cases as the cause of this inhuman custom. One benefit which resulted to mankind from the success of Mahomed has been the relinquishment of that inhuman practice amongst his numerous followers.

Abbe Domenech says that some branches of the Scythic stock undoubtedly crossed to America in the early centuries of our era, and they seem to have carried with them the sacrificial customs which have been a peculiarity of all their offshoots. The Comanche and the Nachez, Indian tribes of North America, formerly buried the wives of a deceased chief along with him. The Ottawa offered a horse in sacrifice on the tomb of the dead. With the Nachez, the victims placed themselves on mats and danced the death-dance with their executioners, who formed a circle around them. The Pawnee tribes, supposed to be descendants from the ancient Mexicans, also offered human sacrifices, though the rite latterly fell into abeyance. These sacrifices took place more particularly in the month of April, that is, at sowing time, with a view to obtaining abundant harvests from the Great Spirit. The preparation lasted four days; on the fifth the victim was bound to three stakes, placed above the funeral pile. He was painted red or black, and his breast burned and pierced with arrows, and after his heart was reached it was torn from his breast and devoured all bleeding. This barbarous ceremony was terminated either by setting the pile on fire, or by eating the victim, whose blood served to water the seeds about to be committed to the earth. Many Indian nations of the northern and western parts of North America celebrated annually solemn festivals when the leaves of the willow had attained their full size. These solemnities were in commemoration of a great event,—in propitiation of the superior powers; or were offered in expiation. Among the Mandan, these were prolonged four days, and the greatest cruelties were practised on the tortured victims.

The pouring out of water as a libation is a very ancient rite. In Genesis xxxv. 14, Jacob is mentioned as setting up a pillar, and he poured a drink-offering thereon, and he poured oil thereon; and to the present day, throughout British India, the lingam, the priapus or phallus, in its daily worship by the Saiva Hindus is washed with oil and milk. Wine was occasionally used, as in Numbers xxviii. 7, causing the strong wine to be poured unto the Lord for a drink-offering; also 1 Samuel vii. 6, Israel gathered together to Mizpeh,

and drew water, and poured it out before the Lord. David, when pressed by the people of Palestine, craved for a drink from the well at the gate of Bethlehem, and afterwards would not drink it when brought by three men, 'but poured it out unto the Lord.' And to the present day, all Hindus offer water libations to the earth deity.

The sacrifices of the Zoroastrians were never of human beings. The ordinary victims of the Aryans were the horse and mare, oxen, sheep, and goats.

A little after the time of Isaiah, Buddha appeared, objecting to all animal sacrifices. But from the times of the Vedas until now, the Homa, an offering of ghi to the fire, from the dhenkua or sacrificial ladle; also the Pasaya, sacred food of rice and milk, cooked in sacrificial kettles, have been oblations of Hindus. In the Hindu sacrifices, the sweet-smelling kusa grass seems to have been employed, from the most ancient dates, and also an alcoholic fluid which they called the soma juice, and the ancient Persians called hom. What this fluid was is doubtful, but it had stimulating and intoxicating qualities, for the Rig Veda (ix.) says, 'the purifying soma, like the sea rolling its waves, has poured forth songs and hymns and thoughts.' It has been said to be the fermented acid juice of the *Sarcostemma acidum*, the shom-luta of Bengal; and the fierce exultations which are noticed in the Rig Veda could only have been produced by a strong alcoholic drink.

The ordinary Vedic offerings were of cooked food, delicious food and drink; the Janemajaya, however, was a sacrifice of snakes (qu. the Snake race), and the Rajasaya was a royal sacrifice to the gods in acknowledgment of sovereignty and supremacy. Originally it was a great national feast.

The ancient history of India shows that it has had four great religious eras. *First*, The Vedic, in which Agni, Indra, and other personifications, invoked with feasts and with the hymns of the Rig Veda, and in which maidens selected their husbands in the Swayamvara, and monarchs sacrificed the horse in the Aswa Medha. *Second*, The Brahmanic period, when the Kshatriya feasts were converted into sacrifices for the atonement of sins against the Brahmanical law, and divine worship was reduced to a system of austerities and meditations upon the supreme spirit as Brahma. It was in this era that the Brahmins assumed the character of a great ecclesiastical hierarchy, and established that priestly dominion which still extends over the minds and senses of the Hindus of India. *Thirdly*, The Buddhist period, in which Sakya appeared. And *fourthly*, the Brahmanical revival, during which Brahmins abandoned the worship of their god Brahma, and have clothed with new attributes some of the old national gods and heroes of the Vedic Aryans. In this era Siva is worshipped by one great portion of Hindus as supreme, and styled Iswara and Mahadeva, Lord and Great God, while by a larger part Vishnu came to be regarded as the supreme being, and Rama and Krishna as his incarnations. The Buddhist philosophies do not authorize or favour the sacrifice of animals, but Du Carne tells us that a Buddhist of his camp made an offering of one of his fingers at a Buddhist shrine in Annam. Also, Mr. Wade remarks, that at the Chinese court, in the middle

of the 19th century, some Manchu and Mongol, in the five banners, had the prefix *tsai-sang*, which declares them to be employed in slaying the victims used in sacrifice. The flesh of victims is offered in the *Hwan-ning-kung*, the portion of the palace appropriated to the empress, every morning at 4 o'clock, and at the same hour in the afternoon; at the monthly sacrifice performed on the second of the first moon, and the first day of all succeeding; and at the sacrifice of the morrow, performed on the third of the first, and the second of all succeeding moons. The morning daily sacrifice is to Buddha, *Kwan-yin*, and *Kwan-ti* (the Mars of China); the evening, to nine Tartar divinities bearing long unintelligible appellations. The monthly sacrifices appear to be the same with that on 'the morrow,' i.e. of the monthly sacrifice. The flesh of the victim is boiled and placed before the idols above enumerated, on the right and left of the shrine of heaven; when removed, it is partaken of by the emperor or empress, if officiating in person, or by those to whom his majesty may direct the nobles, his proxies, to distribute it.

There are two hymns in the *Rig Veda* describing the rite of the *Asva Medha* or sacrifice of the horse, and which leave no doubt that in the early religion of the race this sacrifice was had recourse to as a burnt-offering to the gods. It was even then, however, falling into disuse, and was existing as a relic of an ante-Vedic period, imported from some foreign region, possibly from Scythia, where animal victims, and especially horses, were commonly sacrificed. And in still later times, the *Asva Medha* consisted in certain ceremonies ending in the liberation of the horse, as throughout Southern India is still practised with a bull or cow, many of which are met with in every village, freed or let loose in the name of the gods *Siva* or *Vishnu*.

In the *Mahavira Charita*, *Vasishta*, addressing *Jamadagni*, says, 'The heifer is ready for sacrifice, and the food is cooked in ghee. Thou art a learned man, come to the house of the learned, favour us by waiting and participating in the sacrifice.' Also, the *Uttaram Charita* says (*Cal. Rev.* 109, p. 30)—

'Why, know ye not

The Vedas, which enshrine our holy law,
Direct the householder shall offer those
Who in the law are skilled, the horned animal,
And with it flesh of ox, or calf, or goat;
And the like treatment shall the householder
Receive from Brahmans learned in the Vedas.'

The Institutes of Menu contain the following paragraph:—'The sacrifice of a bull, of a man, or of a horse, in the kali age, must be avoided by twice-born men; so must a second gift of a married young woman, whose husband has died before consummation; the larger portion of an eldest brother, and procreation on a brother's widow or wife.'

The *Vaishnava* sect have four kinds of sacrifices, viz. the *Vaiswadeva*, *Varuna-praghasa*, *Sakamedha*, *Sunasiriyu*, to be offered up in the months *Asharh*, *Kartik*, and *Phalgun*. The attributes of these are roasted cakes of flour, with figures of sheep made of dough to *Vaiswadeva* and *Varuna*, with vegetables to *Agni* and *Indra*.

Bloody sacrifices form no part of the ordinary worship now paid to *Rama*, *Krishna*, *Hanuman*, and other modern deities of the *Vaishnava* sectarians, nor to *Vigneswara*, *Subrahmanya*, etc.,

of the *Salva* sect, or of their respective goddesses.

It is usually supposed that all *Vaishnava* Brahmans abstain from offering living creatures in sacrifice. But in Southern India, at the present day, the *Vadaghala* *Vaishnava* sect offer living creatures in sacrifice, while the *Tenaghala* *Vaishnava* and *Madhava* substitute dough for animals. In the sacrifices of *Saiva* Brahmans the victim's head is never cut by the *Sudra* *pujari*, but it is strangled by him, so that the life is lost without spilling blood. *Saiva* Brahmans sacrifice living creatures in Southern India, and never use dough images as a substitute. Amongst the *Smartha*, and also *Madhava* Brahmans, each household keeps a *tulsi* plant in the middle of the courtyard for worshipping. Each new moon, as also on the occurrence of an eclipse, either of the sun or moon, also at the summer and winter solstices, their *Utrayanam* and *Datchanayanam*, every caste Hindu, whether Brahman, *Kshatriya*, *Vaisya*, or *Sudra*, offers the *Tharpanam*, or water-sacrifice, in the names of his deceased father, grandfathers, great-grandfathers, and their wives, seeds of the oriental sesamum being mixed with the water. It is as a means of continuing this *Sradha* ceremony that Hindus long to have a son born to them, as in their creed it is taught that the manes of ancestors are gratified by the *Tharpanam*. This is a particular part of the sacrifice, called *yugnu*, but at present it is often performed separately. The things offered are clarified butter, sesamum flowers, boiled rice, rice boiled in milk and sweetened with honey, *durba* grass, *vilva* leaves, and the tender branches, half a span long, of the *ushwuthu*, the *doomvuru*, the *pulashu*, the *akun-du*, the *shumee*, and the *khudiru* trees. Clarified butter alone is sufficient, but any or all of these things may be added.

The *Saiva* Brahmans likewise, annually in some towns, *Conjeveram* for instance, perform the bloody rite to the Vedic gods, *Indra*, *Varuna*, *Yama*; and both in 1859 and 1860, the *Saiva* Brahmans in *Madras* so sacrificed. Several Brahmans are employed in this rite. One Brahman, assisted by his wife, the couple being styled the *Soma Yaji* and *Soma Devi*, commences the rite by performing the fire sacrifice by pouring ghee into a large fire. The *pujari*, a *Sudra*, then strikes the head from the victim, and large portions of its flesh being thrown into the fire and reduced to ashes, portions are distributed to the assembly. This being a *Prasad*'ham, or food offered to the gods, all castes can partake of it. Many partake of it.

Throughout India generally, at the present day, in almost all the household sacrifices, in which the husband or head of the house is the priest, the oblation is used as food. In North America, the animals sacrificed were killed and eaten or buried; sometimes the horse, instead of being killed, was simply set at liberty, in the presence of the warriors of the tribe. *Sonnerat* relates that the Syrians at the feast of the torches or funeral pile, and the Hebrews at the feast of the Passover, made arbours before the temples, and carried their gods round them in procession, whom they afterwards burned. The people then presented their offerings, which commonly were lambs and sheep; and after the priest had made the first libation upon them, each person carried

his victim home to eat it. Some texts of Menu would seem to authorize the eating of animal food at all seasons, observing merely the preliminary ceremony of offering a portion of it to the gods or manes, like the heroes of Homer, with whom the sacrifice was only the prelude to a feast.

The grand festival to Friya was in spring; then boars were offered up to her by the Scandinavians, and boars of paste were made and eaten by the peasantry. So, at the present day, 'Vasanti,' or spring personified, is worshipped by the Rajputs, who open the season with a grand hunt, led by the prince and his vassal chiefs, when they chase, slay, and eat the boar.

Self-destruction.—The Rev. Mr. Ward, writing in the early part of the 19th century, says it was difficult to form an estimate of the number of Hindus who perish annually, the victims of superstition; but he conjectures 10,500 as the number of victims annually sacrificed.—Widows burned on the funeral pile, in Hindustan, 5000; pilgrims perishing on the roads and at sacred places, 4000; persons drowning themselves in the Ganges, or buried, or burned alive, 500; children immolated, including the daughters of the Rajputs, 500; sick persons whose death is hastened on the banks of the Ganges, 500.

A great change has been made in this respect, through steady repression by the British Government of India. Up to the year 1802, Hindus drowned their children at the mouth of the Ganges, but the rite was then prohibited. Until later times, men and women drowned themselves in the sacred river, and frequently at the junction of the Jumna and the Ganges. They fastened earthenware pots to their bodies, and walked calmly into the river beyond their depth, filled the pots by turning them to one side, and as the pots filled they sank. As the century advanced, the Government ascertained that the sacred books of the Hindus gave no sanction to widows immolating themselves, as sati, along with the bodies of their deceased partners, and it was prohibited in 1829, during Lord William Bentinck's administration, and rulers of the Feudatory States were induced to issue a similar prohibition. Akbar had endeavoured to put a stop to this practice, and on one occasion he rode about 80 miles to prevent the widow of the Jodhpur raja's son destroying herself, but was not listened to. Instances still occur from time to time, but the people generally avoid it.

Men, from time to time, bury themselves alive. The practice is known as Samad'h, and is had recourse to alike by fanatics as by persons incurably afflicted with leprosy or other severe diseases. Scarcely a year passes by without an occurrence of this kind, and, being done stealthily, the police are often baffled. Up to the early years of the 19th century, instances occurred of individuals being crushed under the wooden wheels of the huge cars in which their idols are carried in procession. It is now admitted that the statements about the frequency of self-immolations and accidents in that manner were exaggerated; but by the care taken by the constabulary, these occurrences are now unheard of.

According to former accounts, writes Malcolm, self-destruction among men, by casting themselves during public festivals from a rock at Onkar Mundattah, and from a precipice near

Jawad, was once common. The sacrifices have of late years seldom occurred. The men who sacrificed themselves were generally of low tribes, usually the Bhil, Dher, or Chamar. One of the leading motives by which they were said to be actuated, is a belief that they will be re-born as rajas in their next state of transmigration.

In 1883, the Indian papers reported the self-sacrifice of a Banya family of twelve persons in Kattyawar, to propitiate the gods.

About the year 1877, in the month of May, Soomar Bhartee, a Sanyasi Gossain from Benares, settled in a linga temple in the village of Mulka-pur, in the Vishalghur territory of the Kolhapur State, and along with a lingayat Wani, sacrificed Ballya, a little boy, 12 years of age, as an offering to Siva (Mahadeo), to obtain a revelation where hidden treasure was to be found.

The British Indian authorities have been unceasing in their efforts to check infanticide. It has been practised chiefly by the Rajput races, who destroyed their newborn daughters to avoid the great expenses of their marriages. Several of the tribes acted thus, but the Jhareja of Cutch exceeded all the others. The Indian Government in 1871 ascertained the villages in which the male children exceeded the girls in number, and placed such places under strict supervision, with compulsory registration of births. In the census of 1881, in the entire population of British India, there were 129,941,851 men and boys, and 123,949,970 girls and women; but in Rajputana the males were 5,544,665, and the females 4,723,727, fewer by 820,938.

It has been customary, from unknown times, along the banks of the Ganges, for ailing, dying men, particularly the aged, to be taken to the river side to expire. They would sometimes for days be there awaiting death, and repeated instances occurred of their death being caused by the relatives filling the mouth with water from the river, or the clay of its banks. With all Hindus it is usual at the death-agony to fill the mouth of the dying person with the fluid of the panchagavya, but the exposure of their sick on the river banks could only hasten the fatal event.

The Charan and the Bhot (Bard), semi-religious tribes of Rajputana, until recent years were employed as guaranties for the safety of individual travellers, and also as convoys for caravans of merchandise. Their sacred character gave them the influence which they exercised in behalf of those under their care, but if pushed to extremity they would wound and even destroy their families and themselves, so that their death might be on the robbers.

Until British supremacy, the Hindus of Northern India, in order to extort a debt, would erect a pile of wood, called a Koor, placing on it a cow or an old woman, and set fire to the pile, and sacrifice the victim. The sacrifice was supposed to involve in great sin the person whose conduct forced the constructor of the Koor to adopt this mode of obtaining his money.

During the religious convulsions from which the Aryan Hindus have suffered, the writings of some of their sects have put forward quite opposing views as to human sacrifices.

In the Brahma Purana, every Narmedha, or man-sacrifice, is expressly forbidden; and in the fifth book of the Bhagavat, Sir William Jones

has pointed out the following emphatic words:—'Whatever men in this world sacrifice human victims, and whatever women eat the flesh of male cattle, those men and those women shall the animals here slain torment in the mansions of Yama; and, like slaughtering giants, having cleaved their limbs with axes, shall quaff their blood.'—*As. Res.* iii. p. 260.

In the Acharya Brahmana, translated by Roth, it is related that 'Harichandra had been married to a hundred wives, and yet there was no man-child born to him. At the suggestion of Narada, a sage, he went to Varuna, and promised that if his prayers were heard, and a son granted to him, he would offer him up in sacrifice to the king. Accordingly, in due time, a son was born, who was called Rohita. Varuna wanted to keep Harichandra to his promise, but the latter put forth various excuses till Rohita grew up. And then Rohita objected, and fled to the woods, where he wandered for six years, until he fell in with the rishi Agastya. The rishi had three sons, and he promised to Rohita his second, Sunasapha, on receipt of 100 cows. But another difficulty occurred, for no one would bind the victim until Rohita gave 200 cows more. Sunasapha, unwilling to be sacrificed, interceded first with Prajapati, then with Agni, and was released, but not before Sunasapha was bound to the sacrificial post, and his father whittling his sword approaching to kill him, on which Sunasapha exclaimed, 'They will really kill me, as if I was not a man.'

No religious rite can be more minutely ordered and detailed than this is in the Kalika Purana, the sanguinary chapter of which has been translated by Mr. Blaquiére, and given in the fifth volume of the Asiatic Researches, Art. xxiii., and as well as the ceremonies, the implements, prayers, etc., used on these horrid occasions, are minutely described and recited. In this article, premising that Siva is supposed to address his sons, the Bhairava, initiating them in these terrible mysteries, occurs: 'The flesh of the antelope and the rhinoceros give my beloved' (*i.e.* the goddess Kali) 'delight for 600 years.' 'By a human sacrifice, attended by the forms laid down, Devi is pleased 1000 years, and by a sacrifice of three men, 100,000 years. By human flesh, Camachya, Chandica, and Bhairava, who assume my shape, are pleased 1000 years. An oblation of blood which has been rendered pure by holy tests, is equal to ambrosia; the head and flesh also afford much delight to the goddess Chandica.' 'Blood drawn from the offerer's own body is looked upon as a proper oblation to the goddess Chandica.' 'Let the sacrificer repeat the word Kali twice, then the words Devi-Bajreswari, then Lawha Dandayai, Namah! which words may be rendered—Hail, Kali! Kali! hail, Devil goddess of thunder! hail, iron-sceptred goddess!' 'Let him then take the axe in his hand and again make the same by the Calatritya text.' Different mantras are used in reference to the description of the victim to be immolated: females are not to be immolated, except on very particular occasions; the human female never.

The *Bali* is any offering to an idol, such as that of flowers or the presentation of food to all created beings, by throwing grains up into the air, or offering goats and other animals in sacrifice.

The presentation is called *bali-dan* or *bali-danam*. The offerings to Vishnu consist of rice, milk, curds, fruits, flowers, and inanimate forms; but to the terrific forms of Siva, or his consort Durga, living creatures, sheep, goats, buffaloes, and human beings are offered up, in which case the heads are given to the sacrificial priests, and the bodies are carried away. The *Ostyak*, when they kill an animal, rub some of the blood on the mouths of their idols. Even this seems at length to be replaced, as Mr. Taylor has suggested, by red paint, and the sacred stones in India, as Colonel Forbes Leslie has shown, are everywhere ornamented with red lead. In many cases it seems to be a necessary portion of the ceremony that the victim should be eaten by those present. Thus in India, when the sacrifice is over, the priest comes out and distributes part of the articles which had been offered to the idols. This is received as holy, and is eaten immediately.

The terms used for the sacrifice are *Bali*, TAM.; *Gavu*, TEL.; *Yagnya Magha*, SANSK. When an ox, lamb, or fowl is offered up in sacrifice to a Devi or Mari female deity by the Sudras, the first two words are used. The words *Yagnya Magha* are used to indicate a sacrifice celebrated only by the Brahmins on occasions in which they offer goats and not any other animals. In the present day, the cow is not offered in sacrifice by any Hindu sect or race, but in the marriage ceremony of some parts of the country, where a milch cow, *surābhi*, is released on the intercession of a barber, sufficient remains to show that the rite was formerly practised at marriages for the sake of hospitality. The male buffalo is, however, frequently sacrificed, sometimes in considerable numbers; and only in 1859, the government of Madras ordered the magistrate of the Krishna division to forbid the cruel rite to Amnavaru, wherein buffaloes were impaled alive to appease that angry goddess, and avert cholera. On that occasion, in a small village, 12 to 24 buffaloes were sacrificed, as also several hundred sheep, and the heads of the sacrificed buffaloes were carried in procession on the heads of men.

Every hamlet of the southern parts of the Peninsula has its own object of adoration, village deities, always supposed to be a goddess. Amongst names given to it are—

Ankal Amma.	Tripura-sundari.	Karikatta.
Poni Amma, or	or the beautiful	Tanthoniamma.
gold mother.	of three cities.	Dandumari.
Kani Amma.	Osauramma.	Mallamma.
Yegata, or sole	Sellamma.	Chinnamma.
mother.	Yellamma.	Ammanamma.
Mutialamma, or	Padavettu Amma	Choundeswari.
pearl mother.	Tulukan Amma.	Vadivatta.
Paleri Amma, or	Muttumari.	Nagattamma.
great goddess.	Poteramma.	

They are called Amman, Amma, Amani, and Ai, all of them meaning mother. The villagers believe that these goddesses protect them from sickness and losses, and that their worship averts such or mitigates them. A *pujali* or *pujari*, a worshipping priest, of the Sudra caste, is appointed for her daily worship. He anoints her daily, and puts ashes on her head, really on the top of the stone, for it is not an image, being entirely without shape. In a small pot he cooks rice, which he collects from the villagers in turn, presents it to the idol, and then takes it to his own home. He breaks a cocoanut in front of

the idol, to which he offers it. But the one-half he keeps for himself, and gives the other to the families from whom he collected the fruit. The villagers make vows to their goddess to offer up to her fowls and sheep in sacrifice, if she will fulfil their desires. Once a year, the villagers collect money by subscription, and celebrate a feast in honour of their goddess, during which sheep and fowls are largely sacrificed. Many of the Sudra, and the entire servile tribes in the south of India, have the fullest faith in their respective village goddesses. When they or their children are overtaken by sickness, they seek the idol, and consult the pujari, who sings songs, affects to hear the Amman's voice, and then announces to the worshipper the offering that must be presented. If cholera break out, it is not unusual for some neighbouring village deity suddenly to rise into great importance, and the sacrificial rite is then almost unceasingly performed. The Hindus, too, have even personified this pestilence into a goddess, whom they have named Maha-Kali, the Great Kali, also Mari-Ai, the Death Mother, and believe that if they neglect her worship she destroys them by the disease. Indeed, gods are still in process of establishment, and smallpox and cholera have thus been personified. Maha-Kali of Ujjain being the goddess of cholera, and Mari Amman of the Tamil people, the Sitla Amman of Western India, a smallpox deity. When a person is attacked with smallpox, they believe that the goddess has taken possession of the sick man. They entertain a great dread of this goddess. While in the house, the sexes remain apart until recovery, and until the sick has been purified by ablution. They place the leaves of the margosa tree beside the sick person, because the goddess is supposed to delight in this tree. They give cooling food, but employ neither internal nor external remedies, in reverence for the deity. The women of the household offer rice flour mixed with jagari, or coarse sugar, and black gram (Pairu, TAM., Pesalu, TEL.), before the patient, in honour of the goddess, and afterwards distribute offerings to Sudras and others. On the seventh day, i.e. what medical men call the 15th day, the invalid is bathed in cold water, and the whole body rubbed with a pusty mixture of leaves of the margosa (Azadirachta Indica) mixed with turmeric, and on the same day rice mixed with curds are distributed to Sudras. If in the virulence of the disease an eye be lost, it is attributed to something having been done displeasing to the goddess. The goddess indeed is supposed to appear in three forms, as Tattumamvaru or Chinnamamvaru, i.e. little small goddess; Peddamamvaru, or great goddess; and Pairamamvaru, or goddess of green gram, the two last of which are most feared.

The Amman worshippers almost all practise and believe in the efficacy of demon or devil or evil spirit rites, amongst which sacrifices always form a part. The sacrifice of the cock to the demon Peisachi, in this respect similar to the devil-worshippers in Kurdistan, is practised by all the non-Aryan people in the south of India, whether of the Brahmanical Hindu persuasion, or of the servile non-Hindu people.

Madan is very little known, but with a class of Tamil magicians is deemed a very great and powerful demon. He is generally courted by

the Pariah, Chuckler, Lubbai, and uneducated Muhammadans, who offer beef and arrack to obtain his good-will and favour.

Living sacrifices of animals are an essential part of the worship of all the tutelary village goddesses in Southern India, as also of the goddesses of cholera, smallpox, etc. Their names are various amongst the several Tamil, Telugu, Canarese, and Mahratta nations. Ammun, Amoor Amma, Bal Amma, Poch Amma, Yellamma, Marri Ammun, Ai, Satwai Devi, Sitla Devi, and others, amongst whom, everywhere, Bal Amma and her worshippers seem dreaded the Pariahs who worship other of the Ammun goddesses refusing to intermarry with her devotees. The Yelm worshippers also are dreaded as sorcerers, and their wives are distinguishable by the mode in which they attire themselves with their saree, which they bring from behind, and from left to right. Satwai, amongst the Mahrattas, is a great goddess, to whom children's hair is devoted, the front part offered to her, the back part being retained till some other goddess possess the body (ang bharave), such as the smallpox goddess or cholera goddess Marri-ai.

In the bloody sacrifices of these non-Aryan races, the goat is the usual victim. The rite is ordinarily performed only once a year, when friends join to offer a goat, and make a feast of its flesh afterwards. At all the sacrificial oblations, bread and cereal grains are also offered, and used in the after-feasting. Thousands of sheep and fowls are annually sacrificed at Periyapalayam, a village about 30 miles from Madras, and multitudes of people attend from that city and the neighbouring villages, to celebrate the yearly festival, which takes place in the bright half of the month of Adi. Large numbers of buffaloes were, until the middle of the 19th century, offered at the funeral rites of the Toda of Ootacamund, but the Madras Government put a stop to such wholesale massacre, and restricted the rite to the killing of only two animals at a time,—a measure which the Toda race viewed with unaffected alarm and dislike, as likely to decrease their children and cattle. In 1883, a race at Kotagerry applied for permission to sacrifice a sambur. The Irular race of the Neilgherries sacrifice to their deities a he-goat or cock, by cutting the victim's throat, and throwing it to the idol. This is a winnow or fan, which they call Mahri, and is evidently the emblem of Ceres; and at a short distance in front of the rude thatched shed, which serves as a temple, are two rude stones, one called Moshani, the other Konudi Mahri, but which are subordinate to the fan occupying the interior of the temple. Human sacrifices are still, in Southern India, deemed to be requisite to mollify goddesses and demons who guard hidden treasure, and who are believed to have a partiality for the blood of a pregnant woman, especially of one who is conceived of twins, and to the firstborn of the goldsmith caste; indeed, in popular belief, in the year 1860, one of the latter was supposed to have been very recently offered. There is a shrine of Vatrappanachiyar, the tutelary goddess of Tiruvattur, a village to the north of Madras, on the road to Ennore; this is situate in a part of the great and much-frequented pagoda of Tiyyagana Sami, for which the village is celebrated in ancient Hindu

books. The sacrifice now offered there is that of a male buffalo, but is conducted with great secrecy, and people are not generally admitted to witness it. Indeed, the dread of witnessing the sacrifice and its attendant ceremonies are so great, that pregnant women are, if possible, kept out of the village for fear of abortion, which is believed to be the certain result should the shrieks of the men who carry the raktabali fall on their ears. This raktabali (Rakta, blood; Bali, sacrifice) is assumed to be the food for devils and the attendant spirits of the goddess, and consists of rice mixed with the sacrificial blood. It is carried only during the last day of the annual festival of the goddess, after midnight, in an earthen pot of a peculiar shape and design, by men specially allotted to the duty. They run and shriek and howl in the street to scare away the devils and evil spirits, and halt at the corners and windings, and throw balls of this blood-mixed rice to the demons, etc. It is considered to be an evil omen for any man to meet them in their rounds, as fever, madness, and disease might befall him.

All treasure concealed underground for a length of time is said to become the property of demons, who take charge of and only part with it to those who satisfy their desire for blood; the greater the demon, the higher is the kind of sacrifice he demands.

The Gond worship many deities, to whom they offer fowls, goats, fruit, rice, grain, spirits, and whatever the country affords.

The Woon district in East Berar came under the care of the British about the middle of the 19th century, when Berar was assigned by the Nizam of Hyderabad. Before the assignment, searchers for treasure used to offer human beings in sacrifice, but the victims there are now confined to buffaloes, sheep, goats, and fowls. A buffalo is sacrificed in every village in the Dasserah festival, to the goddess of kine, Gaodevi, and the buffalo is led up to the house of the head-man of the village, who makes to it oblations of flowers, etc. He then strikes it on the muzzle with a sword, and allows the blood to fall on the ground as a libation to the goddess, to appease her anger. It is then led to the door of every house in the village; each householder makes a money present to the leader; in the evening the victim is killed by its throat being cut, and at the south boundary of the village a drop of its blood is applied to the foreheads of the head-man, of the potail, the deshbandi, and desh mukhs. Outside of every Woon village is a shrine of the smallpox goddess, called there Sitala Devi. It is merely a few stones coloured with red lead; and after recovery from this ailment, the family in which the disease has been visit the shrine, offer a goat as a victim, and prepare food for this oblation.

With the Kol, one or two of the Hindu gods are revered, but they have many of their own non-Aryan deities, to which they mostly resort. They sacrifice fowls, and pour libations before eating. Colonel Tod describes a lofty three-peaked mountain in the Vindhya range on which is a temple dedicated to Aya-mata, also called Isani, the tutelary divinity of the Kol, and he mentions that Isani and the effigy of the horse are the only objects worshipped among this aboriginal race. He mentions that Isani means

mother - earth, from Isa, goddess, and Anani, earth. The chief divinity of the Larka Kol is the sun, suraj; and next to the sun ranks the moon, chanda; and then the stars, which they believe to be the children of the moon. Besides the sun and moon, there are spirits called bhonga which inhabit the trees and groves in and around the village, and those trees are never denuded of their branches or cut down. When labour-pains come on, the women are shut up in a lonely hut, offerings are hung up near to propitiate the bhonga, and no one ventures to approach till the labour is over.

The Kandh had long been addicted to sacrifice human beings to the earth goddess. The victim was always purchased, and was destroyed with much ceremony, in the midst of assembled Kandhs, each of whom tore off a portion of the body to bury in his field as a propitiation.

The Indian Government became aware of the Kandh custom about the year 1834, and took immediate measures to induce them to discontinue it, and the year 1860 passed by without a single meriah. Captain MacVicar and Colonel Campbell exerted themselves to suppress it. Among the Kandhs, when performing this meriah sacrifice, which was quite common up to the year 1850, a stout stake was driven into the soil, and to it the victim was fastened, seated, and anointed with ghi, oil, and turmeric, decorated with flowers, and worshipped during the day by the assembly. At nightfall the licentious revelry was resumed, and on the third morning the victim got some milk to drink, when the presiding priest implored the goddess to shower her blessings on the people, that they might increase and multiply, prosperity attend their cattle and poultry, fertility their fields, and happiness to the people generally. The priest recounted the origin and advantage of the rite, and concluded by stating that the goddess had been obeyed and the people assembled. Other softening expressions were recited to excite the compassion of the multitude. After the ceremony, the victim was taken to the grove where the sacrifice was to be carried out; and to prevent resistance, the bones of the arms and legs were broken, or he was drugged with opium or datura. The Janni wounded his victim with his axe, and this act was followed up by the crowd, who pressed forward to obtain a piece of his flesh to bury in their fields, and in a moment he was stripped to the bone.

At Bombay, Kali is worshipped at Sitali, and at other places, as Devi, Mata, and Amoor Amma. At Chanda and Lanji she has temples in which human victims were offered almost up to the middle of the 19th century. The victim was taken to the temple in the evening and shut up, and in the morning he was found dead, the dread goddess having 'shown her power by coming in the night and sucking his blood.' At Dantewada, in Bastar, about 60 miles S.W. of Jagdalpur, near the junction of the Sankani and Dankani, tributaries of the Indrawati, is a shrine of Danteswari, at which, about A.D. 1830, it is said that upwards of 25 full-grown men were immolated on a single occasion by a raja of Bastar. Since then, adds Mr. Hislop, numerous complaints reached the Nagpur authorities of the continuance of the practice, up to the time of the annexation by the British. Captain Clune, writing in 1828, says

that when a rana of Mewar had occasion to pass the Mahi river, an individual from a tribe descended from a Chauhan Rajput and a Bhil mother was sacrificed, his throat being cut and his body thrown into the river. This sacrifice had been once performed in the lifetime of the rana then reigning. Dr. Mason relates that when, about A.D. 1780, the gates of the new city of Tavoy were erected, a criminal was put into each post hole, and the massive posts thrown in upon him, so that his blood gushed up at the sides. His spirit was supposed to become a Nat, that would hover about the post, inflicting evil on all who came near, thereby contributing to the defence of the town.

Human sacrifices and the ornaments of the victim are alluded to in the Toy Cart or Mrichi-chi-kati, and in the Malati and Madhava, two ancient Sanskrit dramas. Madhava comes on the scene when the Aghora Ghanta is preparing to offer Malati, and he exclaims :

'What luckless chance is this, that such a maid
With crimson garb and garland, like a victim
Adorned for sacrifice, should be the captive
Of impious wretches !'

In like manner, the ordinary victims of the Greeks were adorned with crowns and garlands, as thus, in the Clouds, in the scene between Socrates and Strepsiades :

Socr. Now take this chaplet—wear it.
Streps. Why this chaplet ?
Would'at make of me another Athamas,
And sacrifice me to a cloud ?'

So also in the Heracidae, Macaria, when offering herself as a victim to secure the triumph of the Athenians, exclaims :

'To the scene of death
Conduct, with garlands crown me !'

The translator of Euripides also observes that human sacrifices at their first origin appear to have consisted of virgins or young men in the state of celibacy, and in this respect the selection of Malati offers another analogy. The words translated above impious wretches, Pashanda and Chandala, mean aboriginal races, heretics, and out-castes. These epithets indicate little respect for the worshippers of Durga, and their application so publicly declared would lead us to infer that the author's sentiments were those of his age. Jagaddahara states that in the rite two legal prohibitions are violated, of which he gives the text; they are, 'Let him not eat from the leaf of the asclepias, nor slay a female nor child;' also, 'Females of every description of being, it is well known, are not to be slain.'

In addition to the village deities noticed, the only goddess who requires victims is the Sakti of Siva, defined by her votaries to be the visible energy of the divine essence symbolized as a female. She is highly venerated during the nine days of the Dassera or Navaratri (the nine nights), at the close of which a sheep is generally offered in the houses of Rajputs and Mahrattas. The sacrifice of buffaloes on the occasion is very rare, and when it is offered, the ceremony takes place in temples sacred to this goddess, but sometimes in jungles and unfrequented parts. The goddesses and demons of the Sudras all accept bloody sacrifices, which are generally accompanied with the offering of spirituous liquors. As a general rule, the offering of such sacrifices

among the houses of educated Hindus, and in the superior temples, is observed with great secrecy.

Man, as a victim, is still being offered up in many other parts of the world.

Human sacrifices of the most extensive character, and ancestral worship, still prevail in Dahomey, and in all Africa a serpent-worship prevails. So many as 600 victims have been offered up at Dahomey at one time.

At Quendendes village in South Africa, Dr. Livingstone found human sacrifices frequent; and when a chief dies, a number of his servants are slaughtered, to form his company in the other world, a custom which the Barotse also follow. Also, in many of the Polynesian islands, up to the present date, human beings are sacrificed on commencing to build a war-canoe, a chief's house, or on the death of a chief.

In a chapter on human sacrifice in Dr. Norman Chever's book on Medical Jurisprudence, the author writes of human sacrifice by decapitation as an existing practice (pp. 408, 410), and says there are 'strong reasons for believing that there is scarcely a district in India in which human sacrifice is not still practised occasionally as a religious rite.' Doubtless, the old sanguinary expiatory ideas still lurk in the breasts of the masses, and in face of impending famine or pestilence, when men's apprehensions are most deeply stirred, the offering of a human victim to the power which can inflict hunger or disease, instead of the usual goat or buffalo, is not a violent or unnatural step. Ideas of this nature, formulated under the terms sacrifice and atonement, are essential axioms in comparative religion, and their abandonment is only to be hoped for as part and parcel of a refinement of national thought and habit. To this end, general education, and more particularly education in the physical sciences, and the fostering of a belief in general laws and a benevolent God, are the great means, and the increasing power of the British in India may lead to the discontinuance of such barbarities.

The Reverend Mr. Ward, writing regarding Bengal in the early part of the 19th century, mentions that at a village called Ksheeru, near the town of Bardwan, human sacrifices were offered to the goddess Yോഗদ্যা, a form of Durga; at Kireetukona, near Murshidabad, to Kali; and at many other places. The discovery of murders in the name of religion was made by finding bodies with the heads cut off near the images; and the natives well knew that these people had been offered in sacrifice. At the village of Serampur also, near Kutwa, before the temple of the goddess Tara, a human body was found without a head; and inside the temple, different offerings, as ornaments, food, flowers, spirituous liquors, etc. All who saw it knew that a human victim had been slaughtered in the night, and search was made after the murderers, but in vain.

On the N.E. frontier of British India, several Mongoloid races sacrifice human beings till now. The object of the Kuki inroads on the plains is not plunder, for which they have never been known to show any desire, but they kill and carry away the heads of as many human beings as they can seize, and have been known, in one night, to carry off fifty. These are used in certain cere-

monies performed at the funerals of their chiefs, and it is always after the death of one of their rajas that their incursions occur.

In Manipur, Cachar, and Assam, according to the Calcutta Review for 1860, the offering of human sacrifices was still continued. By the records of the Sudder Nizamut Adalat of Chittagong for 1852, some men of the Toonia Joom Mahals were tried for murder by sacrificing. This is a forest tract in the hills, and inhabited by the Mug, Chukma, Reang, Tiperah, and other races, all more or less nomadic. The place of sacrifice was a cleared spot in the jungle, and staked round with bamboos about 6 feet high. The sacrificial pole, the Phula bans, are bamboos scraped and stripped at the edges, the hanging strips giving a rude notion of ornament. These sacrifices generally occur once a year. During its celebration at Agartollah, a gun is fired every evening at sunset, when every person hurries to his home. The Kuki and all the hill tribes worship local deities, said to be 14 in number.

According to Dr. W. W. Hunter, the Hadi are a helot race spread over all Bengal, who take their name from the original Santali word for man, 'Had,' and who have supplied such terms as hadd, base, low-horn; hadduk, a sweeper; hunda, hog, blockhead, imp; hudduka, a drunken sot, etc.; also hadi, in low Bengali hadikath, is the name of a rude fetter or stock, by which the landholder used to confine his serfs until they agreed to his terms. It means literally the helot's log; it was also used for fastening the head of the victim in the bloody oblations which the Aryan religion adopted from the aboriginal races, especially in the human sacrifices to Kali, to which the low castes even now resort in times of special need. In an account of the last human offerings to Kali, during the famine of 1866, it was mentioned that the bleeding head was found fixed on the harcat, i.e. helot's log.

In a war between two Arab chiefs, in the time of Belisarius, but which was carried on without the interference of either Persia or Rome, the son of Horeth fell into the power of the Mondar of Hirah, who sacrificed him to Uzza, the deity worshipped by his tribe. Al-Azu of the ancient Arabs, is the same with the lingam of the Hindus, and to this emblem human sacrifices still occur.

Human sacrifices till lately were common with the Garo as offerings to the manes of deceased chiefs. The Burmese stopped the practice amongst the Chutia. It was annual, and the victims had to be provided by a particular tribe, who were rewarded by being exempted from service and taxes. The Koo Karen are reputed to torture human victims in the same manner as they torture the Gayal, by despatching it with numberless spear wounds. The Bhuiya of Keonjhar Hills, in the Tributary Mahals of Bonai and Gangpur, and Bamra, so late as 1st May 1868, performed a human sacrifice.

So late as 1859, the July number of the Calcutta Review (p. 423) remarks that 'in Bengal, in the worship of the bloody Kali, all castes mingle together, and, after a libation of ardent spirits to the goddess, drink spirits and eat flesh, as their fathers did in the Vedic times. It is practised also to this day in the foul and secret rites of the Tantra. A festival held in honour of Kali is called also Kali-puja, as the Dasra in honour of

the same deity, under the name of Durga, is called also Durga-puja and Durgotsava.'

The body of a man, named Rama, resident of the village of Narsipur, in the Shimoga district, was found in a small temple on the 18th of February 1875. He was a lingayet worshipper of Siva, aged about 22 years, of a retiring disposition, and given to reading religious books. The temple is a small, low building cut into the hill, and consisting of three rooms: first the outer one supported on pillars, then an inner square one, and inside this again the very small one or sanctum, containing the lingam. In the middle room the body was found lying on a blanket, on its right side. The arms were crossed on the chest, the last joints of the five fingers of the left hand were cut off, and were in front of the idol, between it and the door, arranged in a line; and still nearer the door, in front of the idol, blade toward it, was found a kudigol or sickle-shaped knife, besmeared with blood. Two days previous to the discovery of the body, two pujali came to the temple, and on attempting to open the door, they were warned by a voice from within to be off, that there were scenes of wonder being enacted inside which it would not be well for them to witness, and so they left.

A correspondent sent the following report to the Madras Times, of a case of human sacrifice which occurred in the Patna Feudatory State, in the Central Provinces. The chief of the Gond of the Alardu ground of villages was sitting by the side of a road during the Dusserah festival, talking to his uncle, a chowkidar, and a liquor-seller. Presently a strolling minstrel appeared on the scene, and saluted to the chief, who asked him if he drank liquor. The minstrel replied that he did, so the chief caused him to be served with some toddy, which the party had with them. The Gond chief and the liquor-seller then went into the jungle, the remainder of the party stayed talking by the side of the road. When the chief and the liquor-seller returned, the latter went up to the minstrel, and, seizing him by his hair, pulled him down. The Gond chief said to his uncle, 'Take your axe and cut the minstrel's throat.' Accordingly the chief's uncle sat astride the minstrel's chest, and cut his throat with an axe, the Gond chief in the meantime holding a lota belonging to one of the party to catch the blood which gushed out. The minstrel died at once, and the chowkidar and the liquor-seller chopped up the body, and, taking it a little way into the jungle, buried it there. The whole party then proceeded to the temple of the goddess Duarini, which they reached about 10 P.M. The chief, leaving the others outside, went in and woke up the pujali, saying, I have brought an offering of liquor for the goddess, do you pour it over her image. The pujali at first refused, but afterwards, yielding to the earnest solicitations of the chief, took the lota and poured its contents over the stone image of the goddess. Seeing the contents were blood, he inquired from whence it came. The chief said it was the blood of a buffalo bull. He then went outside, and joining his party, they all returned home. About ten days after the murder, the minstrel's relatives, finding that he did not return, gave information to the police, and on an investigation being held, the chowkidar confessed fully, and on his confession,

the chief, his uncle, and the liquor-seller were brought to trial before the commissioner of the Ch'hattisgarh division, and were sentenced by him to be hanged.

Captain Postans, writing on Western India, tells us that Brahmans of the Dekhan long preserved the custom of yearly sacrificing an aged woman, on the occasion of the raja of Sattara's visit to the fort of Partabghur. There is, toward the close of the 19th century, a numerous tribe of Brahmans who are still accused of the practice. They are the Kurrada, and are inhabitants of the Konkan. They were noticed in 1808 by Colonel Walker, Resident of Baroda, and subsequently by Sir John Malcolm in his History of India, and the latest reports from that neighbourhood show the belief that the practice of sacrificing human beings still continues amongst them. The goddess of their worship is Maha Lakshmi, to whom they believe human sacrifices are acceptable, and the more so if the victim is a Brahman learned in the shastras. Kurrada Brahmans are accused of effecting, by the secret operation of poison, that object. Colonel Walker knew several Kurrada Brahmans who, admitting the former prevalence, most strongly denied its present practice, but many people would decline to eat of food prepared by a Brahman of this tribe, of which he himself should not at the same time partake. Sir John Malcolm also states of the Kurrada Brahmans that they had a custom at Poona of annually sacrificing to the Sakti a young Brahman; and as, according to the sacred books, if the victim is unwilling, the sacrifice is forbidden, to prevent the possibility of such an occurrence, the unsuspecting but devoted one is frequently the stranger, who for months, or perhaps years, had shared the hospitality of his murderer. On one such case occurring, orders were issued for the apprehension of a Kurrada Brahman and his family, who themselves were put to death, whilst every priest of the sect was expelled from the city of Poona, and their return forbidden by the heaviest penalties.—*Milman's Hist. of Jews*, 4th edit., i. pp. 24, 154; *William Howit, The Supernatural; Bunsen, Egypt; Georgie*, lib. iii. p. 5; *Sharpe's Egypt*, i. p. 163; *Early Christianity in Arabia; Colonel Forbes Leslie; Lubbock, Origin of Civil.; Kenrick's Phœnicia; J. R. Carnac and Colonel A. Walker, Resident, Baroda*, 15th March 1808, in *Parliamentary Paper*, 17th June 1824, p. 52; *Abbe Domenech; Wade's Chinese Army*, p. 22; *Tod's Rajasthan*, i. pp. 63, 76, 378; *Coleman, Mythology of the Hindoos*, p. 374; *Williams' Nala*, pp. 119, 209; *Postans' Western India*, ii. p. 173; *Hindu Theatre*, i. p. 340, ii. p. 59; *Captain John Clune, Appendix to the Itinerary for Western India*, p. 46; *Mason's Tenasserim; Mason's Burma; Dr. W. W. Hunter*, p. 30; *Livingstone, Africa; Malcolm's Central India*, ii. p. 309; *Cal. Rev.*, December 1860, also January 1871; *Wilson's Glossary; Sonnerat's Voyage*, p. 116; *Ward's Hindoos*, ii. 49-58, 126, 127, iv. 870; *Forbes' Rasmala, Hindu Annals*, ii. pp. 353, 360; *Frere, Antipodes*, p. 234; *Bryant's Mythology; Roberts' Illustrations of the Scriptures; Moor, Oriental Fragments; Burder, Oriental Customs; Harris' Nat. Hist. of the Bible; Wilson's Select Works*, ii. 247; *Barth's Hindus*, p. 57; *As. Res.* v. p. 369; *Peschel; Tod*.

SACRIFICE ROCK, on the W. coast of the

Peninsula of India, lies 4½ miles off the nearest shore, 15½ miles from Tellicherry. It is whitish in appearance, 40 feet high, and has edible birds' nests on it. Dr. Fryer, who visited India in 1673, says that at Mangalore the Dutch had a fort, and, 6 miles to the north, the French had a flag flying; within a league of which a grey rock extols its hoary head eight fathoms above water, navigable on all sides, justly called by us Sacrifice Island, in remembrance of a bloody butchery on some English by the pirate Malabara, who are the worst pickeroons on this coast, going in fleets, and are set out by the great men ashore, the chief of whom lives at Durmapatan.—*A New Account of East India and Persia*, etc. p. 55, Lond. 1698; *Ouseley's Travels*, i. p. 68.

SADA, Hindu Unitarians, which their name Sada or Sad'ha, HIND., pure or puritan, implies. They originated in A.D. 1658 with a person named Birbhan. They have no temples.

SADACHARAS. SANSK. Fixed religious observances of the Hindus.

SA-DANG, also Saundang. BURM. A measure of length in Pegu=0.601 yards.

SADARO, a shirt assumed and worn by the Parsee race as a token of admission to their faith.

SADASHEGHUR, a small seaport town on the west coast of India in the N. Canara district of the Bombay Presidency, in lat. 14° 51' 25" N., and long. 76° 10' 55" E. The prevalence of heavy breakers outside and across the mouth of the bay, from Carwarhead to Deoghur Island, and also throughout its interior (except close under the Head), during the height of the S.W. monsoon, render it dangerous at such times for inward-bound vessels to make the anchorage, and impossible for those outward-bound to put to sea.

SADASHYA. SANSK. Bystanders at a council, whose business it is to notice and correct mistakes. The Sadashya regulates the ceremonies of worship, but is not employed on all occasions.—*Ward's Hindoos*, ii. p. 17.

SADAT, ARAB., plural of Syud. This word in the northern Hejaz and in British India is applied indifferently to the posterity of Hasan and Husain, sons of Ali and Fatima, and grandsons of Mahomed. The descendants of Ali by other wives are styled Alavi Sadat.—*Burton's Mecca*, ii. p. 263.

SADA-VART or Sada-bart, a poorhouse for distributing alms to the poor, in the form of food or money, and daily or periodically.

SADDAIMUNI is said to have been a Saiva devotee, who lived at the same time as Agastya. A Vedantic treatise, Gnana Nuru, a work on medicine, Kalappa Nuru, and one on alchemy, Vata Nikandu, are attributed to him; but they are forgeries.

SADDLE.

Sarj.	ARAB.	Sela.	MALAY.
Selles.	FR.	Zin.	PERA.
Sattel.	GER.	Sadla.	ROS.
Zin, Koghir,	HIND.	Selles.	SP.
Selle.	IT.	Eyer.	TURK.
Kakapa, Palana,	MALAY.		

The saddles of Europe are made with a wooden framework covered with leather of different kinds, and with intervening padding. Those in use in Asia are made of cloth or felt (namdah), with or without a wooden framework, and the different races in Sind, in Kattyawar, Tibet, and Hindustan

have each their own peculiar forms. Their saddle-cloths are often embroidered. At the Exhibition of 1851, the saddle-cloths and matchlock accoutrements from the raja of Kotah had a pattern produced with gold-headed nails fixed into green velvet. The effect of this was so good as to be greatly admired by some of the best judges.—*Royle's Arts, etc., of India*, p. 508.

SADDLE ISLAND, in the Red Sea, has active volcanoes.

SAD-GOP, a cowherd race of the N.W. Provinces. They have no connection with the other Gowalla of Bengal, and neither intermarry with them, nor follow the same pursuits.—*Cal. Rev.*, No. 110.

SADH or **Sad'hu**. **SANSK.** Pure, pious, virtuous, good; a person leading a pious or religious life, an ascetic, a mendicant, a monotheist sect of Hindus, whose chief seats are Delhi, Agra, Jeypore, Farrakhabad, but there are several of the sect scattered over other parts of the country. The Sad'h utterly reject and abhor all kinds of idolatry. They say Sad'h, the appellation of the sect, means 'servant of God'; its real meaning is pure, from Sad'ha, pure. They are pure deists, and their form of worship is most simple. Sad'hs resemble the Quakers, or Society of Friends in England, in their customs in a remarkable degree. Ornaments and gay apparel of every kind are strictly prohibited. Their dress is always white. They never make any obeisance or salutation. They will not take an oath, and they are exempted in the courts of justice, their asseveration, like that of the Quakers, being considered equivalent. The Sad'hs profess to abstain from all luxuries, such as tobacco, betle, opium, and wine. They never have exhibitions of dancing. All violence to man or beast is forbidden; but in self-defence resistance is allowable. Industry is strongly enjoined. Their nuptial rite is simple, all unnecessary expenses being scrupulously avoided. Polygamy is never allowed, and even widows are forbidden to unite with a second husband.—*Cole. Myth. Hind.*

SADHAN, a devout Hindu butcher of Benares who lived in the 17th century, and was fervent in the observances of his religion. He is fabled to have miraculously weighed all his meat with a saligram, and without dying to have ascended to heaven.—*Sherring*, p. 266.

SAD'HI RAM DAS was the first Sikh guru of the Sad'hi tribe, and hence was named Ram Das, Sad'hi. The Sad'hi were numerous about Muckawal about the middle of the 19th century.—*MacGregor's Sikhs*, i. p. 29.

SADHUA PANTHI, a Vaishnava sect of Hindus in the N.W. Provinces of India; originated by Sadhua, a butcher.

SAD'HWIA, a Hindu female saint. Sad'hya, **SANSK.**, is from Sad'h, to perfect.

SADI, a Persian poet, a beautiful writer in his own peculiar way. Though inferior to Hafiz in lyric poetry, his works are much more voluminous and diversified, embracing all kinds of composition in prose and verse. Sadi was his literary takhallus or title, given, it is said, because he lived in the reign of Sal-bin-Zangi, king of Persia. His name was Shaikh Maslah-ul-Din. He was born at Shiraz A.D. 1194, and died there A.D. 1292, at the age of 98 solar years. He was a man of much learning and great piety, real or

pretended. He travelled as a darvesh during the greater part of his life, and made the pilgrimage to Mecca no less than 14 times.

SADID-ud-DIN GAZEKUNI, author of *Ul-Moghni-fi-Sharh-ul-Mujiz*, a commentary on the Commentary of Ala-ud-Din Ali on Avicenna's *Qanun fi'l Tibb*.

SADIYA, village in Lakhimpur district, Assam, in lat. 27° 49' 45" N., and long. 95° 41' 35" E., on the right bank of the Brahmaputra, about 100 miles above Dibrugarh, and 210 feet above the sea. Sadiya is the extreme N.E. frontier outpost of British India. The river is navigable thus far in the rains. In 1839, the Khamti tribe rose in rebellion. They cut off the outpost at Sadiya, and killed Major White, the commandant and political agent, together with the detachment of sepoy. In order to promote friendly relations with the neighbouring hill tribes of Khamti, Mishmi, and Singpho, a fair is held in February. The hillmen bring down caoutchouc, wax, musk, cloth, mats, daos or hill-knives, and ivory.—*Imp. Gaz.*; *A. Schlegelentweit*.

SADOZAI, a title of the Daurani Afghans. They ruled in Kabul from A.D. 1747 until they were put aside by Dost Muhammad Khan, a chief of the Barakzai.

SADQA. **ARAB.** Sacrifice. Sadqe-hona or Sadqe-jana, to become a sacrifice for another. Sadqe-karna, to sacrifice for the welfare of another.

SADR. **ARAB.** Chief, principal. Sadr adalat, the chief court of justice; Sadr Diwani adalat, the chief civil court; Sadr foudjari adalat; Sadr Nizamat adalat, the chief criminal court. Sadr-amin, a judicial functionary; Sadr mal guzar, in the revenue system, the head-man of a village who collects and pays the land-tax. The Sadr-amin of the British is a subordinate judge with limited civil and criminal jurisdiction.

SADRAS, correctly Satranja-patana, a small seaport town on the Coromandel coast, in lat. 12° 31' 15" N., and long. 80° 12' E. Population, about 1144. Sadras first became a trading settlement of the Dutch in 1617, and was long famous for the fineness of the muslin produced by its looms. The British captured it in 1795. It was temporarily restored to the Dutch, but has been an English possession since 1824.—*Imp. Gaz.*

SADRPUR, a pargana in the Sitapur district of Oudh; Muhammadans form the principal proprietary body, owning 119 villages; Raikwars hold 11; Seths, 5; Janwar Kshatriyas, 4; Panwars, 4; Kashmiri Brahmans, 4. The remaining 23 are chiefly held by Kayasths.—*Imp. Gaz.*

SADULLAPUR, a village in Maldah district, Bengal. The chief descent or ghat to the holy stream of the Bhagirathi is at this place, to which the dead bodies of Hindus are brought from great distances to be burned.—*Imp. Gaz.* viii.

SADWAR. **HIND.** Pikemen in the Northern Circars.

SAFA. **HIND.** A small, close-fitting, coloured turband, worn under the dastar.

SAFDAR ALI, a Muhammadan chief who was engaged in the contest for supremacy, and was for a short time a nawab in Arcot, but was murdered there by Pathans and Abyssinian slaves. He left a posthumous and only son.

SAFED KOH, a range of mountains in Afghanistan, which commences from a few miles west of the Shutargardan pass, between Kuram and

Logar. Its highest point is the Sita Ram mountain, 15,622 feet above the sea, whence the range is perhaps nowhere less than 12,500 feet, until it again culminates in a double-peak mountain, whose summits average 14,800 feet. It throws out to the north a spur which forms the east watershed of the Logar river, and, dividing it from the Khurd Kābul river, ends at Bhutkhak. Another spur separates the Khurd Kābul and the Tegin rivers, and over it run the Haft Kotal and Lata-band passes. Another spur, after running north for about 30 miles to the north of Jagdalak, turns to the east, parallel with the Kābul river, and ends at the junction of the Surkhāb with that river. Other north spurs run between the streams which flow down from it into the Surkhāb or the Kābul river. Of these the principal are, commencing from the west, the Gandamak, Karasu, Chiprial, Kiarak, Kote, and Mohmand. On the south of the range is a spur which runs out from the Shutargardan pass, and drains on the north and east into the Hazardarakht and Hariab streams, and on the south into another source of the Kuram; and a second south spur is the Peiwar Kotal, which comes out from the Sita Ram peak, 15,622 feet, and ends at the Kuram, draining into the Keria and Hariab rivers on the west and the Peiwar on the east.—*Walker; Moorcroft*, ii. p. 355; *Mohun Lal's Tr.* p. 339; *MacGregor's Afghanistan*, p. 686; *Imp. Gaz.; Bellev.*

SAFFAVI, a dynasty which ruled in Persia. See *Khalifa*.

SAFFLOWER, Bastard saffron.

Usfar,	ARAB.	Kussum, Kussumbe, HIND.	
Kajirah,	BENG.	Zaffrone,	IT.
Hung-lan-hwa,	CHIN.	Acafron,	POR.
Yoh-hung-hwa,		Polerroi,	RUS.
Safflor, DA., DU., GER., SW.		Prostoi schafraon,	"
Kurtin,	EGYPT.	Azafron bastardo,	SP.
Cartame,	FR.	Alazor,	"
Saffran batard,		Sendorkum,	TAM.

Two species yield the safflower of commerce, viz. *Carthamus tinctorius*, which has small leaves and an orange flower; and *C. oxyacantha*, with larger leaves and a yellow flower, a native of Caucasus. The former is cultivated in every part of the E. Indies, in China, America, Spain, some of the warmer parts of Europe; is indigenous to the whole of the Indian Archipelago, and a large quantity is grown in and exported from Bali.

It has been noticed under its Latin name *Carthamus tinctorius*, also under *Dyes*, but it may be mentioned here, that though still largely used throughout the East Indies, and exported from British India, the aniline dyes are being preferred to it even in the places of its growth. The safflower exported from India was—

	Cwt.	Rs.		Cwt.	Rs.
1874-75,	14,222	6,50,837	1879-80,	2,411	1,81,456
1876-77,	7,662	3,04,672	1882-83,	3,008	92,038
1877-78,	8,998	1,48,806			

Safflower oil, Polivan oil of the Panjab, and *Karima safr* of the Persians, is a light-yellow, clear oil, obtained from the seeds when properly prepared. It is used in India for culinary and other purposes. This oil deserves more attention than it has hitherto received. It is used in some of the Government workshops as a 'drying oil.' It is believed to constitute the bulk of the celebrated Macassar oil.

SAFFRON.

Rootia saffron, ANG.-HD.	Asafran,	FR.
Karkam, Zairfan, ARAB.	Keysur, Zairfan,	HIND.
Tha n'wen,	Zafferano,	IT.
Fan-hung-hwa,	Safran,	MALAY.
Hwang-hwa,	Abir, Karkam,	PERS.
Si-tsang-hung-hwa,	Acafrao,	PORT.
Poh-fu-lan,	Safran,	RUS.
Safran,	Kunkama,	SANSK.
Safran,	Khohun,	SINGH.

Crocus sativus, the saffron plant, has been noticed under that head. It is a native of Asia Minor, naturalized in many parts of Europe, and cultivated in Persia and Kashmir. The Chinese obtain it from Tibet. It is brought to India from Great Britain, the seaports of the Red Sea, Persia, and Kashmir. The dried stigmata of the flower are picked out, dried on paper either in a kiln or by the sun. If compressed into cakes, it is called cake saffron. Hay saffron, that usually met with, consists of the stigmas, each about an inch and a half long. One grain of good saffron contains the stigmata and styles of nine flowers, so that one ounce of saffron is equal to 4000 flowers. The dried pistils, compressed into firm cakes or masses, are termed in India rootia saffron. Cake saffron, as now met with, is prepared from the florets of the safflower. Saffron is used in medicine, and as a dye, and in India also by women to tinge the skin of the body of a light-yellow colour, but the aniline dyes are everywhere displacing it. To put on the saffron robe is the sign of 'no quarter' with the Rajput warrior. It is employed as a seasoning in cookery, also to colour confectionery, liquors, varnishes, and it is used to a small extent by painters and dyers. The colouring ingredient is a peculiar principle, to which the name of polychroite has been given. It possesses the properties of being totally destroyed by the action of the solar rays, colouring in small quantity a large body of water, and of forming blue or green tints when treated with sulphuric and nitric acid or with sulphate of iron. In the Arabian and Hindu schools of medicine, it continues to be used. The Arabians class it amongst their Mosebetat (Hypnotica), Mokewyat (Cardiaca), and Mufetthat (Deobstruentia).

SAFI are a widely-spread people occupying Dara Nur, Dara Mazar, Dara Pech, and the valleys opening on the Khonar river, also in a district called Surkh Khambar, south of Bajur, and they inhabit Taghow. They speak the Afghan dialect, but also Pashai. In the emperor Baber's time, they were styled Kafir, and they were subsequently expelled by the Ghikzai from the lands to the south of Taghow, and between Kābul and Jalalabad. Nadir Shah cultivated a friendship with them. South of the Safi, at Bahi, the first march from Goshter, on the Jalalabad river, towards Bajur, are a people called Yeghani, who consider themselves Afghans, but are probably converted Kafir, for they speak a dialect which no Afghan can understand.—*Masson's Journeys*.

SAG. BENG., HIND. Greens; green vegetables; any vegetable pot-herb. *Cochorus oltorius*, gogi sag, is *Malva parviflora*; Jau sag is *Chenopodium album*; Phapru sag is *Pharbitis nil*; Rin sag is *Phytolacca deandra*.

SAGA. SIAM. The red seeds of *Abrus precatorius*, 32 of which make a phainung, worth about 4d.; a gold and silver weight used in

Malacca, the 12th of the mayam, and = 4.33 grains.—*Simmonds' Dict.*

SAGAH BARK. ANGLO-MALAY. A bark of Singapore, resembling mangrove bark in appearance, and employed as a dyeing material.

SAGAI. HIND. Betrothal; from Saga, also Sagawat, relationship.

SAGALA was the capital of the Bactrian dynasty that ruled in the Panjab, and its name was changed by Demetrius to Euthymedia. Bayer says that according to Claudius Ptolemy, there was a town within the Hydaspes yet nearer the Indus called Sagala, also Euthymedia, but he scarcely doubts that Demetrius called it Euthymedia, from his father, after his death, and that of Menander. Colonel Tod supposes Sagala to be the Salbhanpura of the Yudu when driven from Zabulistan, and that of the Yu-ti or Yu-chi, who were fixed there from Central Asia in the 5th century, and if so early as the 2d century when Ptolemy wrote, they may have originated the change to Yutimedia, the Central Yu-ti.—*Hist. Reg. Bact.* p. 84. See Bactria.

SAGAPENUM.

Sagbinuj, Sakbenuj, ARAB. Sagafun, . . GR., PERS. I-sus, . . . BOMBAY. Kundil, Sagbenuj, HIND. Sagapenummi, . . GRK. Sagapeno, . . . Ir.

A concrete gum-resin, supposed by some authors to be from the *Ferula Persica*. It is obtained from Smyrna, Alexandria, etc., in masses formed of soft, adhesive fragments, the size of the thumb or more, somewhat transparent, reddish-yellow externally, pale within, of a waxy or brittle consistency, often mixed with impurities and seeds. Its odour resembles that of garlic and asafoetida; its taste is hot, nauseous, and rather bitter. Its medicinal uses are the same as those of asafoetida, but it is considered less energetic, and is but little employed. It is sometimes adulterated with bdellium, gunda birosa, and other similar gum-resins or turpentine. It is collected in the same manner as asafoetida.—*O'Sh.* p. 363.

SAGAR or *Sagara*, an ocean, a sea, any inland sea or artificial lake; also the low lands at the mouths of the Delta of the Ganges where the Hoogly branch falls into the sea. *Ganga Sagara*, the place where the Bhagirathi leaves the Ganges to the ocean.

SAGAR, a town of the Central Provinces of British India, in lat. 23° 49' 50" N., and long. 78° 48' 45" E., with a population in 1872 of 45,655 souls. Sagar stands 1940 feet above sea-level, on the N.W. borders of a lake nearly a mile broad, and said to be an ancient Banjara work. A Bundela raja built a small fort on the site of the present city in A.D. 1660, and founded a village, called Parkota, now a quarter of the modern town. Sagar town is the headquarter station of a district of the same name, lying between lat. 23° 4' and 24° 27' N., and long. 78° 6' and 79° 12' E. Area, 4005 square miles; population in 1872, 527,725 persons. Sagar district occupies, with that of Damoh, the high Vindhyan table-land which stretches out on the north-west corner of the Central Provinces. The cultivators are the Kurmi and the Lodhi. The Gond, 24,217, comprise about 4.68 per cent. of the population, and the predatory criminal Khangar and Kohri are non-Aryan races. The Kohri dwell on the borders, near Native States, to which they resort if pressed by the police.

In the beginning of the year A.D. 1818, by a treaty concluded between the Peshwa Baji Rao and the British Government, Sagar, with the greater part of the present Sagar district Damoh, Jubbulpur, and Mandla, were made over to the British.—*Imp. Gaz.*

SAGAR or Saugor Island is at the mouth of the Hoogly river, Bengal, in lat. 21° 35' 30" to 21° 56' 30" N., and long. 88° 4' 30" to 88° 14' E. Its lighthouse is in lat. 21° 38' N., and 88° 1' E. long. It is 21 miles in length and 6 in breadth, and is low, but as it lies upon the extreme edge of the deltaic basin, it is consequently higher than the centre of the delta. The remains of tanks, temples, and roads are still to be seen, showing that it was once more densely populated than it is now, and native history informs us that Saugor Island has been inhabited for centuries. During the operation of clearing Saugor Island in 1822 to 1833, and later when clearing away the jungle for the electric telegraph in 1855-56, remains of buildings, tanks, roads, and other signs of man's former presence were brought to light. Again, upon the eastern portions of the Sunderbuns, where the country has been cleared of forest, mud forts are found in good numbers. Mug, Malay, Arab, Portuguese, and other pirates, about A.D. 1581, depopulated the country so far to the westward between the river Horinghatta and the Rabnabad channel. The delta is intersected from north to south by many broad rivers, and by endless creeks running one into the other, filled for the most part with salt water when near the sea. This tract of land occupies approximately 28,080 square miles of superficial area, or double the area of the delta of the Nile; measuring from west to east, or from the right bank of the Hoogly river opposite to the Saugor tripod on the south-west point of Saugor Island, to Chittagong, it is 270 miles in width, presenting to the Bay of Bengal a series of low, flat mud banks covered at high water and dry at low water; a few miles from low-water mark commence mangrove swamps; a little farther inland trees appear, and lastly cultivation, the nearest cultivation in the central portion of the delta being 47 miles from the sea. In the sea front of the delta there are nine principal openings having a head-stream, that is, having water flowing direct from the Ganges, or from the Megna or Brahmaputra. They are—1. the Ganges; 2. the Megna or Brahmaputra; 3. Horinghatta; 4. Pussur; 5. Murjatta or Kagga; 6. Barapunga; 7. Mollinichew; 8. Roymungul or Juboona; 9. Hoogly. Besides these large rivers, there are numerous openings having no head-stream, being mere salt-water tidal estuaries; these openings or headless rivers are the deepest, as no silt or deposit is poured into them from the higher lands. The tides in the Hoogly run with a rapidity in the springs of 7 miles an hour between Saugor and Calcutta. At Calcutta it is high water about 2h. 30m. on full and change of the moon. The bore is of not unfrequent occurrence in this branch of the river.

A fair is held on the island in the beginning of January, to which pilgrims from all parts of India, but especially from Bengal, resort to wash away their sins in the waters of the holy stream. A writer in the *Calcutta Review* states that, in 1688, two years before the foundation of Calcutta, it contained a population of 200,000 persons, who

SAGARA.

In one night were swept away by an inundation. A cyclone of 1864 caused enormous destruction and loss of life. The storm-wave, 11 feet above the level of the land, swept over the island with resistless force; 1488 persons survived out of a population of 5625. The island, when surveyed in 1812, was found to contain 143,265 acres of dry land. The island is now covered with dense jungle, and infested by tigers and other wild beasts. Many attempts have been made to cultivate it, but with small success.

SAGARA, in Hindu legend reputed son of Bahu or Bahuka. He is said to have warred with and conquered the Saka, the Yavana, the Kamboja, the Parada, and Pahlava. Sagara had two wives, Sumati, daughter of Kasyapa, and Kesini, daughter of Raja Viderbha, both of whom had children, all bad men, who were destroyed.—*Garrett; Dowson.*

SAGE.

Klug-kai, Tan-san, CHIN.	Salvia, Ir., Sr.
Sauge, FR.	Salbei, PRUS.
Weise, Salbei, GER.	Seyss-elle, TAM.
Salbia, HIND.	Ada chayi, TURK.

A perennial, native of the south of Europe, of Central Asia, and China; grown in all the gardens, and is propagated by seeds, layers, and slips. It is used for seasoning. The sage of Bengal, Murtoo, BENG., are the leaves and herb of *Merandura Bengalensis*.—*Ben.* p. 223; *Smith.*

SAGERETIA BRANDRETHIANA. Aitch.

Ganger, Kanger, JHELM.	Koher, . RAVI, SUTLEJ.
Bhandi, Bajani, . KANGRA.	Mumani, TRANS-INDUS.
Maimana, PANJ.	

The *Sageretia* genus of plants, belonging to the natural order Rhamnace, is found in S. and N. America, Java, China, and in India along the foot of the Himalaya. *S. Brandrethiana* is a large shrub of Kaghan; abounds in places, Trans-Indus, from 2000 to 3500 feet, and in the Salt Range, and occurs low in the Jhelum basin. The fruit is well known in the bazars of Peshawur and Afghanistan; it is small and black, and is very pleasant eating when fresh and in sufficient quantity, the flavour being not unlike that of the bilberry. In the Salt Range, a chatni is made of the fruit; wood very hard and close-grained.

SAGERETIA HAMOSA. Brongn.

Rhamnus trigynus, Don. | *Zizyphus hamosa*, Wall.

A trailing plant of Nepal.—*Voigt.*

SAGERETIA OPPOSITIFOLIA. Brongn.

<i>Berchemia oppositifolia</i> , W.	<i>Rhamnus trigynus</i> , Don.
<i>Zizyphus oppositifolia</i> , W.	
Girthan, BEAS.	Gidarnak, . . . KAGHAN.
Kanak, KAGHAN.	Orange, RAVI.

A plant of the Dehra Doon, and in the N.W. Himalaya at from 2000 to 3000 feet in the outer hills. Its fruit is eaten.

SAGERETIA THEEZANS. Brongn. A large shrub employed as a substitute for tea in China, where the poor make use of the leaves in the same manner as those of the true tea, and for which it makes a good substitute from its astringency and fragrance; wood very hard.—*Drs. Voigt, Cleghorn, Stewart; Eng. Cyc.*

SAGITTARIA SAGITIFOLIA, Linn., of Europe, N. and Mid Asia to Japan. It is one of the handsomest of British aquatic plants, whether as regards the elegant spear-leaved canes of glossiest green, or the flower-spikes rising in pyramidal form from the surface of the water. It

SAGO.

is extensively cultivated among the Chinese for the sake of its edible rhizome, which fixes itself in the solid earth below the mud, and constitutes an article of food. *S. Sinensis*, *Tatarinov*, Ts'ze ku, CHIN., is mentioned by Tatarinov as growing in China, but is also applied to the Chinese tulip species of *amaryllis* or tulip, the Chinese name.—*Art. Jour.* p. 108, April 1857; *Smith.*

SAGO.

Sagu-dana, BENG.	Sagu, Sagu-chawal, HIND.
Kwang-lang mien, CHIN.	Sagu, JAV., MALAY, MALE.
So-muh-mien, "	Show-arisi, TAM.
Si-kuh-mi, "	Zow bium, TEL.

Sago, and starchy substances allied to it, are obtained from many palms. Sago starch is contained in the cellular tissue of the stem, and is separated by bruising and elutriation. The finest is procured from the stems of *Sagrus levis*, *Rumph.*, a native of Borneo and Sumatra; and *Arenga saccharifera*, *Labillardiere*, furnishes a large supply of sugar, and when exhausted of its saccharine sap, yields sago of good quality.

In Java, the *Arenga saccharifera* is the only source of sago, which is used in considerable quantity in the western and poorer districts of the island, and is offered for sale in all the markets. It is smaller in quantity than in the pith of the true sago tree, more difficult to extract, and inferior in quality, possessing a certain peculiar flavour from which the farina of the true sago is free. Some trees will produce five or six female spadices, before yielding a single male one; such trees are considered unprofitable by the toddy collectors, but in this case it is said that they yield sago equal in quality, though not in quantity, to the *Cycas circinalis*, from which, both in the East and West Indies, a kind of sago is procured. One tree yielded about 150 lbs. of good sago meal.

In the Moluccas, large quantities are obtained from the *Sagrus levis* and *Arenga saccharifera*. The Malays prefer that of *Sagrus levis*, but the *Sagrus farinifera*, *Gartn.*, of the eastern islands of the Indian Ocean, also yields a sago.

Sago, sugar, and palm wine are procured from the *Caryota urens*. The farinaceous part of the trunk of old trees is manufactured into sago, equal to the best farina, being highly nutritious. It is said, indeed, to be equal to that of the true sago palm, and is much used as sago meal in Canara and Cochin. The best sago is made at Cochin from October to June, as in its preparation bright sunshine is required to mature the operation. The first sort may be delivered on the sea-coast at Rs. 4½ per maund (25 lbs.), the second sort Rs. 2½ per maund. *C. obtusa*, *Griffith*, of the Mishmi Hills, and *C. sololifera*, *Wall.*, of the Andamans, are also known.

A farina is prepared in Brazil from the inside of the trunk of the *Carnauba*, *Copernicia cerifera*.

The pithy portion of the trunk of the gebang palm, *Corypha gebanga*, *Blume*, yields a sort of sago, as also that of the *Sabal Adansonii*, the sago palm of New Ireland and New Guinea.

Sago is made in Malabar and Ceylon from the pith of the talipot palm, the *Corypha umbraculifera*.

Cochin-China sago seems from *Lourcero's* account to be obtained from the *Arenga saccharifera* and *Cycas inermis*. According to *Thunberg*, it is from the *Cycas revoluta* that the Japanese manufacture it. From the soft stem of *Cycas*

circinalis, a kind of sago is produced both in the East and West Indies.

Metroxylon filare, Mart., a native of China, yields an inferior sago of commerce.

In India, a sago is obtained from the *Phoenix farinifera*, Roxb.

In China, sago is obtained from *Rhapis flabeliformis*, from which, also, it is made for native use in Travancore, Mysore, and Wynad, in the Peninsula of India.

Mergui sago is manufactured from the *Tacca pinnatifida*, and may be seen in every bazar in the Tenasserim Provinces, the plant abounding along the sea-shores. The same plant is common in the South Sea Islands, and its tubers there supply to the inhabitants the place of bread. A spurious kind of arrowroot has long been made at Mergui from the same plant as that which yields the sago, but medical men have decided that it contains properties which render it unsuitable for the sick, and chemical analysis has developed that it contains only half the nutritious qualities of genuine arrowroot.

Sago occurs in commerce in two states,—pulverulent and granulated. (1) The meal or flour, in the form of a fine amylaceous powder, whitish, with a buffy or reddish tint; odour faint, but somewhat unpleasant and musty. (2) Granulated sago of two kinds,—pearl and common brown. The former occurs in small hard grains, not exceeding in size that of a pin's head, inodorous, and having little taste. They have a brownish or pinkish-yellow tint, and are somewhat translucent. By the aid of a solution of chloride of lime they can be bleached, and rendered perfectly white. The dealers, it is said, pay £7 per ton for bleaching it. Common brown sago occurs in larger brownish-white grains about the size of pearl barley.

Sago in its granulated form is that usually exported. The best sago is the produce of Siak, on the north coast of Sumatra. This is of a light-brown colour, the grains large, and not easily broken. The sago of Borneo is the next in value; it is whiter, but more friable. The produce of the Moluccas, though greatest in quantity, is of the smallest estimation. The cost of granulated sago, from the hands of the grower or producer, was, according to Mr. Crawford, only a dollar a pikul of 133½ lbs. It fetches in the London market—common pearl, 20s. to 26s. the cwt.; sago flour, 20s. the cwt. The Chinese of Malacca and Singapore invented a process by which they refine sago so as to give it a fine pearly lustre.

In most parts of the Archipelago, two kinds of alluvial soil are found in greater or less abundance, one consisting chiefly of sand, often thrown up in long banks, and the other principally of decomposed vegetable matter. The latter is often a consequence of the production of the former, which serves to keep out the waves of the sea, and allow a rank vegetation to flourish. In process of time, by the elevation of the surface and the extension of a similar formation seaward, the older marshes are no longer subject to tidal invasion, and become gradually filled up by the decay of fresh-water plants. For these two descriptions of soil, nature has provided two kinds of palm adapted in a wonderful manner to the necessities of man. On the barren sand she has

planted the cocoanut, and in the morass the sago tree.

Along the immense alluvial tract of the Sumatra coast, from Siak to the Lampongs, and in the large plains of the rivers of the Peninsula, such as those of Rio, Formosa, and the Muar, are hundreds of miles of sago land unoccupied and unproductive, every acre of which is capable of yielding at the rate of about twenty thousand pounds of meal yearly.

One or other of the kinds of the sago tree is found throughout the whole length of the Archipelago, from the islands off the west coast of Sumatra to New Guinea. It is probably capable of flourishing with complete vigour across nearly its entire breadth wherever its natural soil occurs, and certainly within ten degrees north and south of the equator, a band which includes all the Archipelago save the Philippines. The only countries, however, where it is found growing in large forests are New Guinea, the Moluccas, Celebes, Mindanao, Borneo, and Sumatra, being widely spread over the Moluccas, but confined to particular parts of the others.

In the eastern parts of the Archipelago, it forms in many places the chief portion of the inhabitants' food. The sago palms do not appear to be indigenous in Sumatra and the Malay Peninsula.

It is from palm trees of the Archipelago that the sago of commerce is usually obtained. In most of the islands of the Archipelago the sago palms are private property, and sell at about seven shillings a tree. In making sago meal, a tree is cut down close to the ground, the leaves and leaf-stalks cleared away, and a broad strip of the bark taken off the upper side of the trunk. This exposes the pithy matter, which is of a rusty colour near the bottom of the tree, but higher up pure white, about as hard as a dry apple, but with wooden fibres running through it about a quarter of an inch apart. This pith is cut or broken down into a coarse powder by means of a club of hard and heavy wood, having a piece of sharp quartz rock firmly imbedded into its upper end. By successive blows, narrow strips of the pith are cut away till it falls down into the cylinder formed by the bark, leaving only a skin not more than half an inch in thickness. These pith strips are then put into a washing-trough made of the large sheathing vases of the leaves, and the strainer is the fibrous covering from the leaf-stalks of the young cocoanut. Water is poured on the mass of pith, which is pressed against the strainer, and kneaded until all the starch is dissolved, and passes through into a trough with a depression in its centre, into which it is deposited, the surplus water trickling away. When the trough is nearly full, the mass of starch, which has a slightly reddish tinge, is made up into cylinders, neatly wrapped in sago leaves, and in this state is sold as raw sago or sago meal. When this is boiled with water, it forms a thick glutinous mass, with a rather astringent taste, and is eaten with salt, limes, and chillies. When sago bread is to be made, raw sago is broken up, dried in the sun, powdered, and finely sifted. A small clay oven with 6 or 8 slits, ½ of an inch wide and 6 or 8 inches square, is heated over a clear fire of embers, the powder is finely sifted, the openings are covered with a flat

piece of sago bark, and in about five minutes the cakes are turned out sufficiently baked. They are pleasant to eat. When not wanted for immediate use, they are dried for several days in the sun, and tied up in bundles of twenty. They will then keep for years, can be eaten in that state, or soaked in water and toasted or boiled. A tree 20 feet long, and 4 or 5 feet in circumference, will produce 900 pounds, and a pound weight will produce three cakes, and two of these cakes are sufficient for a man for a meal. Two men will finish a tree in five days, and two women will bake it all in five days more, so that for about 12 shillings, one man's food for a year will be had.

In the Moluccas, the pith of the sago palm is prepared for use and exportation. It constitutes the principal food of the natives of the Moluccas, especially during their sea voyages. It is cooked by simply dipping the cakes into warm water, which softens them and renders them easily masticated. It is also made into a sort of soap.

The sago palm of the Spice Islands is the most plentiful but least esteemed, that of Siak, on the north coast of Sumatra, being the best, and that of Borneo second in estimation. Sago meal furnishes the principal food of the Javanese, being baked into cakes.

The process of extraction differs among many of the islands, as that of Mindoro from that of the Moluccas; so also does the size of the cake, those of Amboyna being four inches broad and six long, while those of Ceram are much larger. The people of many of the islands live habitually on this substance. The mass of medulla extracted is immense; 600 pounds is not unusually afforded by a single tree; the refuse, after the bread is made, is thrown in heaps, from which a delicate edible mushroom springs up, and in the heaps, as well as in the decaying wood, are generated worms of a white colour, held in great estimation among the epicureans of the Molucca Islands. Certain wood-worms were in the same manner prized by the ancient Romans; and the taste of the Amboynese has been shared by Europeans, after a struggle with prejudices, which are indeed mere matters of custom.

The sago tree of Sumatra, according to Sir Stamford Raffles, is found in Java only in a few low marshy situations, all of them being deep bogs next to impassable. From seven to ten years is the time it takes for the tree to bear fruit, when planted from the seed in the first instance; the pith commences generally at about the age of six or seven years; after this period, it gradually loses its moisture, and is no longer fit for sago when the tree comes into bearing. One person is sufficient to clear the underwood away, as it grows up, in every lot of 100 fathoms square. The whole family are, however, fully occupied when they cut down the trees for manufacture, which is always done on the spot where the tree is felled. They prepare the number of tampin or measures required for the reception of the sago in the first instance, and put them out to dry; they then fell the tree, and split it in halves by means of wedges, build a temporary house over it, and dig out the pith with hoes made from the rind of the tree. They then carry the pith up into the house, the floor of which is latticed so close as just to allow the finer parts of the medulla to pass through on being wetted with

water and trodden by the feet. Into this house the produce of two or three trees is brought at a time, and all the finer parts are carried down by the water into the trunks of the trees, troughs three or four feet in diameter, which are cleanly hollowed out, and left below to receive it. In order that no wastage may take place, they lead a mat, made also of the leaves of the palm, from the floor of the workshop down into the shells of the trees, and this carries the water without spilling any. They trample it until the water passes through clear of the farina, and then throw away the refuse, merely keeping sufficient to stuff the ends of the tampin. By the next day, the medulla has settled in the trunks of the trees, leaving the water at the top; this is drawn off, and the sago flour thrown in its wet state into the tampin already prepared, and left to strain itself; some refuse pith is then put on the end, before left open, of the base of the cone, and the work is done. The shell of the tree is cut up for firewood, or in slips, and thrown into the marsh, to facilitate its carriage down to the boats waiting for it. This is always the seller's duty. Sago once made is obliged to be kept wet, or it would spoil in a few days; again, kept constantly wet, the tampin leaves soon rot; cultivators cannot therefore keep a stock ready, but at great risk. They have a method of frying the meal over the fire, called *tere sago randang*, which sells for a real, or 82 cents of a Spanish dollar, for 16 of their gantang are equal to 20 of Singapore, or one pikul. This, however, will not keep long, as damp throws it all into a glutinous mass, and in a short time spoils it.

The natives of the Moluccas prepare the meal in different ways, chiefly, however, as a hard bread, which, if kept dry, may be preserved as long as ships' biscuits, and is called sago lemping. The meal, after having been dried for two or three days, is sifted until it becomes tolerably fine, but remains somewhat adhesive. It is then formed into small flat cakes, which, to the number of seven or eight, are placed in a mould of red earth, and baked to the proper degree.

The sago *bornek* or *borne*, the granular sago, is dried for a shorter period, then sifted and shaken by two men in a piece of cloth until it granulates. It is then smeared with fresh cocoanut oil, and heated in an iron pan (*tatyu*) until it attains a certain degree of hardness, after which it is placed in the sun to dry.

For sago *tetu-pala*, the meal is aired until it becomes red, when it is sifted and stuffed into an entire fresh bamboo, which is placed in different rows above a fire until it bursts and the sago is roasted. Sago thus prepared may be preserved a long time if kept dry.

For the sago *buksona*, the meal is mixed with grated *santang kalapa*, *sagar*, and a little pepper and salt, enveloped in young sago leaves, and boiled in water.

To make the sago *bagea* or *kwee bagea*, the meal, after being dried in the air to redness, is sifted, mixed with fresh *kanari* kernels, and then baked in young sago leaves. Sago *baruwa* are small sago cakes of different forms. The sago *sinale* is the meal baked to a cake in a pot. The sago *uha* is the meal enveloped in fresh sago leaves and baked on the fire. Sago *kalapa*, like the lemping, is baked in moulds and mingled with much grated *santang kalapa*; the outside is smeared

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with gula areng, and it is eaten warm. Sago kalapa is even preferred by Europeans to bread at breakfast, and ranked as a dainty. Papeda, sago bubur or pap, is prepared in the same way as arrowroot.

In Amboyna, the native mode of preparing sago was taught to the Amboynese by Rumphius. Before his time, the Amboynese, like the natives at this day at various places on Ceram and Buru, and also elsewhere, as on the west coast of Sumatra, used the sago mixed with the ela. The recollection of Rumphius amongst the Amboynese was long continued, accompanied by a true recognition of the value of this most necessary mode of preparing an article of food which nature has so bountifully bestowed.

The Papua oven for sago flour is made of earthenware. It is generally nine inches square, and about four deep; it is divided into two equal parts by a partition parallel to its sides. Each of those parts is subdivided into eight or nine, about an inch broad; so the whole contains two rows of cells, about eight or nine in a row. When the cell is broad, the sago cake is not likely to be well baked; the best sized cell is such as would contain an ordinary octavo volume upon its edge. When they are of such a size, the cakes will be properly baked, in the following manner:—The oven is supposed to have at its bottom a round handle, by which the baker turns the cells downward upon the fire. When sufficiently heated, it is turned with the mouths of the cells up, and then rests upon the handle (which is now become the bottom) as on a stand. When the oven is heating, the baker is supposed to have prepared his flour, by breaking the lumps small, moistening it with water if too dry, and passing it once or twice through a sieve, at the same time rejecting any parts that look black or smell sour. This done, he fills the cells with the flour, lays a bit of clean leaf over, and with his finger presses the flour down into the cell, then covers all up with leaves, and puts a stone or piece of wood at top, to keep in the heat. In about ten or twelve minutes this will be sufficiently baked, according to their thickness; and bread thus baked will keep several years; kept for twelve months, vermin did not affect it. It may not be amiss to mix a little salt with the flour.

Sago bread, fresh from the oven, eats just like hot rolls. If the baker hit his time, the cakes will be nicely browned on each side. If the heat be too great, the corners of the cakes will melt into a jelly, which, when kept, becomes hard and horny, and if eaten fresh, proves insipid. When properly baked, it is in a kind of middle state, between raw and jellied. A sago cake, when hard, requires to be soaked in water before it can be eaten; it then softens and swells into a curd, like biscuit soaked; but if eaten without soaking (unless fresh from the oven), it feels like sand in the mouth.

Sago is not an article which can ever displace the cereals, or which should be anywhere substituted for them, but it ought to be produced in an exportable state at such a price as to be within reach of the poorer classes whenever a diminution in the supplies of rice or corn deprives them of a sufficient quantity of their ordinary food.

According, as we allow 7 or 15 years for the growth of a tree, an acre of sago is equal in annual produce to 28 or 10 acres of wheat.

The sago palm of Ceram, probably *S. farinifera*,

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has a midrib 12 to 15 feet long, which is used in lieu of bamboo. The lower part is as thick as a man's leg; entire houses are built of them; they form admirable roofing poles for thatch; when split and well supported, they do for flooring; and when selected of equal size, and pegged together side by side to fill up the panels of framed wood houses, they have a very neat appearance, and make better walls and partitions than boards, as they do not shrink, require no paint or varnish, and are not a quarter of the expense. When carefully split and shaved smooth, they are formed into light boards, with pegs of the bark itself, and are the foundation of the leaf-covered boxes of Goram. The leaflets, when folded and tied side by side on the smaller midribs, form the atap or thatch in universal use; while the product of the trunk is the staple food of some hundreds of thousands of men.

Pearl Sago.—Raw sago having been made ready for the manufactory, the first process to which it is subjected is that of a thorough washing. The moist sago being poured into a strainer of coarse thin cloth, and there broken and bruised by the hand, is agitated until all its fine particles pass through the cloth and descend to the bottom of the tub. The sago is then stirred about with an oar for about an hour, after which it is left to stand for about twelve hours, when the water is ladled out, and the sago is removed to undergo the last purifying process which precedes the granulation. This is performed in a mode at once simple and ingenious. Two tubs are placed at a distance of ten or twelve feet from each other, and connected by two troughs raised by a framework above them. A man now stirs up a portion of the sago with an oar till the water obtains a milky appearance, when he pours it into the troughs. When the milk in the upper tub begins to grow shallow, it is again filled up with water and more sago stirred up and mixed with it. The water in the troughs has occasionally time to deposit all its contents, the last being a fine fibrous matter, which, if not removed, would leave a thin yellow layer. The surface is washed with the hand until this layer is effaced and held in suspension. When the troughs have been gradually filled up in the manner described, the sago is left to consolidate for twelve or fourteen hours. In order to give it the degree of dryness required, it is removed from the troughs and exposed for one day to the sun in lumps about a cubic foot in size, which are placed on tables standing in the open air. Large kajang mats, made of the leaf of the mang-kwang, are kept in readiness to cover it when a shower of rain falls. It is next carried to the large shed, where it is thrown in a heap on a long table, and broken down into a pulverulent state. It then passes through an oblong sieve, 30 inches by 20 inches, of which the bottom is formed of parallel fibres from the stem of the cocoanut leaf, kept in their positions by strings which cross them at distances of about two inches. The lumps which do not pass through the long interstices between the fibres, are thrown back into the heap. The granulation or pearling now takes place. The sifted sago is placed in a cloth, of which the ends are tied to a long stick, and which is kept expanded in a bag shape by a short cross stick. A horizontal vibratory motion is given to this, the whole mass being kept in constant agitation, and

every part successively driven along the sides of the bag. If under-dried or over-dried, it will not granulate. This lasts for about a minute, when the new granular sago is again passed through a sieve similar to the last, but the smaller grains which pass through are those which are now rejected. Those that remain are transferred to a circular sieve, of which the bottom is formed of fine stripes of bamboo crossing each other. The grains that pass through the square holes thus produced, form the pearl sago of commerce in the unroasted state. Those that are larger than the holes are thrown back into the heap, to run through the same course again. To assist the men, the oblong sieves and granulating bag are sometimes suspended by rattans from the rafters of the shed.

The roasting takes place in a row of iron pans, each about 2½ feet in diameter, which are built into a platform of masonry about 15 feet long and 4 feet in breadth, covered with flat tiles. The pans rest in an inclined position, partly against the back of the platform, which rises about a foot above its level, and partly on a small prop of brickwork on the right side, an offshoot from the wall. Into the top of this prop a plate is sunk, in which a cloth saturated with wood oil or miniak-krueng is kept. Behind each pan is an open furnace mouth, and a man constantly attends to the fires, keeping them supplied with a few billets of bakau wood, and regulating them with a long two-pronged iron fork, so as to maintain a moderate heat. The pan being gently rubbed with the cloth, a man who sits in front of it on a low stool placed on the platform, pours into it a quantity of granular sago. This he slowly stirs for a short time with a wooden implement called weah, having a sharp curved edge. More sago is poured in, until it amounts to about two chupa, when, as it hardens, he uses the weah more freely. After about three minutes' roasting, it is removed to a table and passed through a round sieve similar to that before described. The grains that adhere to each other are thrown aside, and those that pass through form a smoking heap, which is allowed to lie undisturbed for about twelve hours. The grains are about the same size as they were before roasting, and some retain wholly or partially their white and mealy appearance, but the greater part have become translucent and glutinous, and all have acquired a certain degree of toughness, although still soft. This change appears to be brought about in this way: The water contained in the granules being heated, first converts the mealy starch into a jelly, and then escapes by evaporation, leaving the jelly tough. The second tumefaction drives out the remainder of the water. The final process is another roasting, which renders them hard and tough, and greatly reduces their size. The pearl sago thus prepared and fit for exportation, is put away in large open bins ready to be transferred to boxes or bags when sold.

This method of making pearl sago was introduced into Singapore in 1819. It was taught to the first Chinese who tried it there, by a woman who came from Bukit Batu, a place on the coast of Siak, facing the large island of Bencoolen, and famous for its great fishery of the trubu, the roe of which is so extensively used. In Malacca, however, manufactories had existed for many years before the establishment of Singapore. It is certain, however, that Malacca derived the art

from Bukit Batu. In Singapore it appears almost from the first to have been conducted without any attempt at concealment.

Sixteen men would suffice for a manufactory such as described above, and they would produce about 450 pikuls per month. The original outlay is probably from 300 to 400 dollars. There were, about the year 1840, fifteen Chinese manufactories in Singapore.—*Jour. Ind. Arch.*; *Bennett's Ceylon*; *Lou's Sarawak*; *Forrest's Voyage to New Guinea*; *Crawford, Hist. Ind. Arch.*; *Hogendorp, Coup d'Œil sur Java*; *Dampier, Voyages*, i. pp. 310, 311; *Rumphius, Nat. Hist. Amboinensis*, i. p. 80; *St. John's Arch.*; *Wallace, Arch.* ii. p. 66; *Roxb. Fl. Ind.*; *Voigt*; *Poole's Stat. of Commerce*; *Seeman on Palms*; *Madras Ex.*, 1855, *Jurvis' Reports*; *Report Madras Central for Ec. of 1851*; *Dr. Pringle*; *Griffith's Palms*; *Mason's Tenasserim*; *Morrison, Compendious Description*; *Crawford's Dict. Archip.*; *Dr. W. Jack, Malayan Miscellanies published at Bencoolen*; *Valentyn, Oud en N. O. J.*; *M. de Steur's Tijdschrift, Nee L.*, Ind. 8th year, part iii. p. 367; *Singapore Chronicle*.

SAGRI, an Afghan tribe in the country between the plains of Peshawar and the Salt Range at Kalabagh. The Sagri Patan tribe dwell below the Khattak. The tribe continued entirely independent of the Sikhs. They hold the country on the west bank of the river for nearly 30 miles above Kalabagh, and also possess it on the opposite bank as high as the plain commencing at Hasan Abdal. They are shepherds, and have numerous flocks. The number of the Khattak tribe is variously stated at 6000 and 8000 armed men.—*Burnes' Cabool*, p. 105; *E. I. Papers, Cabool*, 1859, p. 21; *MacGregor*.

SAGUEIR, palm wine of the *Arenga saccharifera*. It is as intoxicating as ordinary beer or cider.

SAGUN. HIND. First payment of the year, first ploughings, first sowings, are all called sagun by Hindus, and are followed by festivities.

SAGUS FARINIFERA. *Gertn.*

Sagun Rumphii, Willd. | *Metroxylon sagus*, *Komig.*
S. spinosus, *Roxb.*

This sago palm is a native of the peninsula of Malacca and of the Eastern Archipelago. The seeds are generally abortive, and it propagates itself by suckers from the roots of the old trees. This palm is one of the smallest of its tribe, seldom reaching to more than 30 feet in height, and growing chiefly in a region extending west to Celebes and Borneo, north to Mindanao, south to Timor, and east to Papua. Ceram is its chief seat, and there large forests of it are found.

It is grown in great perfection in some parts of Borneo, and its sago meal is exported in large quantities from the west coast to Singapore, and also by the Bugis boats from the eastern and southern sides of the island.

The stem, before maturity, and previous to the formation of the fruit, consists of a thin hard wall, about two inches thick, and of an enormous volume of tissue (commonly termed the medulla or pith), from which the farina or sago is obtained. As the fruit forms, the farinaceous medulla disappears, and when the tree attains full maturity, the stem is no more than a hollow shell. The edible farina is the central pith, which varies considerably in different trees, and as to the time required for its attaining proper maturity. It is eaten by the natives in the form of pottage.

In Borneo, the natives prefer rice, and the Milanowe, who live on the rivers Egan, Hoya, Mocha, and Bintulu, and who are the principal cultivators of the sago tree, always import considerable quantities of grain for their own consumption.

The pith producing the sago is seldom of use till the tree is fourteen or fifteen years old; and the tree does not live longer than thirty years.

The farinaceous matter afforded by each tree is very considerable, 500 lbs. being a frequent quantity, while 300 lbs. may be taken as the common average produce of each tree. Supposing the plants set at a distance of ten feet apart, an acre would contain 435 trees, which, on coming to maturity in fifteen years, would yield, at the before-mentioned rate, 120,500 lbs. annually of farinaceous matter. Sago meal, in its raw state, will keep good about a month. The Malays and natives of the Eastern Islands, with whom it forms the chief article of sustenance, partially bake it in earthenware moulds into small hard cakes, which will keep for a considerable time.

Cossus sagnarius, a large lamelliform beetle, found in the pith of this sago palm, is considered by the natives a great delicacy.—*Roxb.*; *Voigt*; *Hartwig*.

SAGUS LÆVIS. *Rumph.* True sago palm.

Sagus inermis, *Roxb.* | *Rambiya*, . . . MALAY.

This is a native of Sumatra, Borneo, and the Moluccas. The stem, which is from 15 to 20 years in attaining maturity, is as thick as that of the cocoanut tree. The petioles and spathes unarmed. This palm furnishes most of the sago sent to Europe.—*O'Sh.*; *Roxb.*; *Voigt*.

SAHJ, a dynasty, according to Mr. Thomas, who ruled from B.C. 180 or 170 to about 50; but Mr. Newton says that they ruled in Gujerat from about B.C. 60 or 70 to A.D. 235. They were succeeded by the Gupta Valabhi kings, and the Indo-Sassanians succeeded to the Valabhi line. Mr. Fergusson gives the following dates of the Sah kings of Saurashtra:—

COIN DATES.	A.D.	COIN DATES.	A.D.
Nahapanna, . . .	79	Iswara Datta, . . .	...
Ushavadata, . . .	...	Vijaya Sahi, . . .	170 249
Swanri Chastana, . . .	...	Dammajata Sri, . . .	...
Jaya Dama, . . .	...	Rudra Sahi, . . .	197 276
Jiva Dama, . . .	...	Vijaya Sinha, . . .	...
Rudra Daman, . . .	72 151	Atri Daman, . . .	...
Rudra Sinha, . . .	102 181	Vijaya Sahi, . . .	200 279
Rudra Sahi, . . .	104 183	Rudra Sinha, . . .	270
Sri Sahi, . . .	141 223	Asa Daman, . . .	271 280
Yusa Daman, . . .	...	Swami Rudra Sahi, . . .	292 371
Dammajata Sri, . . .	...	Do. do. . .	...
Vira Daman, . . .	...	

Dr. Hunter gives the following as the relations of these three Indian dynasties, the Sah, Gupta, and Valabhi, to the successive hordes of Scythians. He says two Vikramaditya Sakari, or vanquishers of the Scythians, are required for the purposes of chronology, and the great battle of Korur near Multan, in which the Scythian hosts perished, has been shifted backwards and forwards from A.D. 78 to 544. The truth seems to be that, during the first six centuries of the Christian era, the fortunes of the Scythian or Tartar races rose and fell from time to time in Northern India. They more than once sustained great defeats; and they more than once overthrew the native dynasties. Their presence is abundantly attested during the century before Christ, represented by Vikramaditya (B.C. 57); during the first century after Christ, represented by the Kanishka family (B.C. 2 to A.D. 87); and

thence to the time of Cosmas Indicopleustes, about A.D. 535. The latest writer on the subject believes that it was the White Huns who overthrew the Guptas between A.D. 465 and 470. He places the great battles of Korur and Manshari, which 'freed India from the Saka and Huna,' between A.D. 524 and 544. Cosmas Indicopleustes, who traded in the Red Sea about A.D. 535, speaks of the Huns as a powerful nation in Northern India in his days. The Nandas, whom Chandragupta succeeded in Behar, were a Sudra or non-Aryan dynasty, and according to one account, Chandragupta and his grandson Asoka came of the same stock. In almost every district throughout Oudh and the N. W. Provinces, ruined towns and forts are ascribed to aboriginal races who ruled at different periods, according to the local legends, between the 5th and 11th centuries.—*Mr. Newton in Jo. Bombay As. Soc.*, 1867-68, p. 18; *Fergusson*, p. 719; *J. Bo. As. Soc.* viii. pp. 27, 119, 238; *Imp. Gaz.*

SAHI. HIND., SANSK. Saha and Sabukar, commonly Sancar, a banker.

SAHAI or Sahi is added to the name of a Brahman tribe of Oudh.

SAHAJ RAM, a celebrated Nanakshahi fakir. His sangat or shrine is tended by a mahant, who has a large establishment of disciples living upon the revenue drawn from one or two endowed villages for Sahaj Ram. Hasanpur, town in the Sultanpur district of Oudh, is four miles west of Sultanpur town, lat. 26° 16' N., long. 32° 3' E. Bandhua, a small village immediately adjoining Hasanpur, is notable as containing the tomb and having been the residence of Baba Sahaj Ram.—*Imp. Gaz.*

SAHA-MARANA. HIND. Burning of a widow at the same time and place as her husband's body.

SAHAN, a cotton cloth manufactured at Santipur, Chandrakona, and Kupamow, in sizes of 1 to 16 yards.

SAHAN. HIND. Hematite, used as a drug.

SAHAR or Suhurgahee. HIND. Dawn of day; breakfast during Lent, so called.

SAHARAWAN, a district of Baluchistan of about 10,000 square miles. The population does not exceed 50,000. The borders of this elevated plateau, the more northern of the Baluch confederate provinces, runs with the Afghan districts of Peshing and Toba, dependent on Kandahar, and is separated on the east by a range of hills, from Dudar and Cutch Gandava. It has only the Bolan river and a few rivulets, but the climate is cool, and the rains ensure good grain harvests. The Raisani, the most respectable of the Saharawan tribes (from Rais, ARAB., a ruler), are able to raise 600 fighting men. The Brahui tribes in Saharawan and Jhalawan, whose great chief is the Khan of Kalat, ethnologists consider to be of the same Scythic stock as the Dravidian races in the south, and infer from this that the passage of some of the Dravidian tribes from Turan was along the valley of the Indus.

The Bolan pass, on the border of Saharawan, leads from the Dasht-i-be-Daulat to Dadar, and is the great route of communication between the western Afghan provinces and the countries opening on the Indus. It is a continuous succession of ravines and gorges. The air in the lower part of the pass is in summer oppressively hot and unhealthy. It extends from lat. 29° 30' to 29° 52' N., and long. 67° 4' to 67° 40' E.—55 miles; or half a mile wide at entrance. The entrance is 800 feet;

Ab-i-gum, 2540; crest, 5793 feet. Average ascent, 90 feet per mile. The Bolan pass with the Moolla pass, far to the south, are the only level routes intersecting the great chain of mountains, defining, on the east, the low countries of Cutch Gandava and the valley of the Indus; while westward it supports the elevated regions of Kalat and Saharawan. There are many other passes over the chain, but all of them from the east have a steep and difficult ascent, and conduct to the brink of the plateau or table-land. Such are the passes of Takari and Nagow, between the Bolan and Moolla routes, and there are others to the north of the Bolan. This pass is no less important, as occurring in the direct line of communication between Sind and the neighbouring countries with Kandahar and Khorsan. It also constitutes, in this direction, the boundary between the Sard-sehl and Garm-sehl, or the cold and hot journeys (*sard sair, garm sair*). The natives here affirm that all below the pass is Hind, and that all above it is Khorasan. This distinction is in a great measure warranted, not only because the pass separates very different races from each other, speaking various dialects, but that it marks the line of a complete change of climate, and natural productions.

The Bolan river is about 70 miles long; the Sir-i-Bolan pass, in lat. 29° 51' N., and long. 67° 8' E., is 4494 feet above the sea. It is remarkably sinuous, but runs generally south-easterly, from a junction with the Nari river. It is liable to inundation; and as its bed in some parts occupies the whole breadth of the ravine, travellers are frequently overtaken by its torrents. It falls 3751 feet in 54 miles from its source to Dadar.—*Mason's Journeys*, i. p. 338.

SAHARUNPUR, a town and district in the Meerut division of the N.W. Provinces of British India. The town is situated in lat. 29° 58' 15" N., and long. 77° 35' 15" E., on a low site on both sides of the Damaula Nadi. Population (1872), 43,844. Elevation above the sea-level, 902 feet. The district lies between lat. 29° 34' 45" and 30° 21' 20" N., and between long. 77° 9' and 78° 14' 45" E. Area, 2219 square miles; population in 1872, 884,617 souls. Saharunpur forms the most northerly portion of the Doab or alluvial table-land which stretches between the valleys of the Ganges and the Jumna. The Siwalik Hills rise above it on the northern frontier. The Rajputs are reckoned at 27,420, of whom only 10,564 are females. They are suspected of infanticide, and in many villages the provisions of the Infanticide Act are strictly enforced. The Chamars number 158,869, and the Gujars 53,576.

SAHASARAM has one of Asoka's edicts on a rock. It is at the extreme N.E. end of the Kaimur range of hills, 70 miles to the S.E. of Benares, and 90 miles S.W. of Patna.

SAHASRARJUNA, a Hindu ruler, famous in Hindu legendary traditions.

SAHAWEL. ARAB. Plural of Sahil, the maritime region on the N.E. of Africa, about 600 miles long, between the river Jub and Cape Delgado, with the Somali on the north and the Kafir to the south.

SAHET MAHET (or Sravasti), a vast collection of ruins in Gonda district, Oudh; situated in lat. 27° 31' N., and long. 82° 5' E., on the south bank of the Rapti river, 10 miles from Balrampur, and

6 from Ikauna. These ruins have been identified by General Cunningham as the remains of the ancient city of Sravasti. Its ruler, Vikramaditya, in the middle of the 2d century A.D. overthrew the Ghayahana of Kashmir, and as his dominion stretched from Peshawur to Malwa, and from Malwa to Bengal, he assumed the title of emperor of Jambudwipa, or the Indian continent.

SAHH-DHARI, one mile N.E. of Kisrai, the modern city of Taxila.—*Dobson*.

SAHIB. ARAB. The respectful term employed by natives of India, and by Europeans themselves, to designate a European of rank. Sahibah, a lady. In Mewar, the title of the rani is simply Mahji; at Jeypore, where they have long used the language and manners of Dehli, they affix the Persian word Sahibah, or lady-mother. Sahib-i-Qaran, a Muhammadan titular term for a sovereign ruler, meaning Lord of the Grand Conjunctions. It was a title of Timur. Sahib-i-Tassaruf, in speculative Muhammadan theology, persons in the world holding supremacy over souls of men. Sahib kran, a Persian coin, rather less than a shilling.

SAHL. ARAB. A plain, level country. Sahl Antakia, the plain of Antioch. Sahl-ul-Baqi, the plain situated between Lebanon and Anti-Lebanon, called by the ancients Coele-Syria. Sahl-ul-Kabir, also called Sahl Jabal-ut-Tur, the great plain, or the Plain of Mount Tabor, commonly called the Plain of Jezreel or of Esdraelon, the Armageddon of the Apocalypse. Here Barak discomfited Sisera; here Josiah fell in battle with Necho, king of Egypt; here Nebuchadnezzar fought with Arphaxad. Here Jews, Gentiles, Saracens, Crusaders, French, Egyptians, Persians, Druse, Turk, and Arab have fought.

SAHO, also Sahocar. HIND. In India, a Hindu who deals in money as a banker, or in exchanges. See Sah; Sahu.

SAHO, son of Sumbaji, ruler of the Mahrattas, in early youth was taken prisoner, and was a captive in the camp of Aurangzeb for about 17 years. He was released by prince Azim about February 1708, and in March he got possession of Satara, and proclaimed himself king. During his captivity, the Mahrattas had placed his uncle Raja Ram on the throne, and on the death of Raja Ram, his widow, Tara Bai, carried on the government in the name of her infant son. When Bahadur Shah returned to Dehli (1708), Daoud Khan Paimi concluded an agreement with Saho, consenting that the chouth or fourth part of the revenues should be paid, and this arrangement kept the Dekhan quiet during the brief reign of Bahadur Shah. But in the time of Ferokhsir, bands of Mahrattas ravaged the Moghul territories as before, and individuals seized on villages within its limits, and turned them into forts, from which they plundered the adjoining districts. Dabari, a gulf who occupied a line of fortified villages on Kandesh, defeated a very strong detachment sent against him, and, influenced by Balaji Wiswanath, Husan Ali Khan, A.D. 1717, made peace with Saho, agreed to pay the chouth or fourth over the whole of the Dekhan, and to make a further payment of one-tenth on the remaining revenue under the name of Sir Dasmukhi, and to acknowledge Saho's claim to the whole of the territory formerly possessed by Sivaaji, with the addition of the later conquests. In return, Saho was to pay a tribute of ten lakhs of rupees, to furnish 15,000 horse, to

preserve the tranquillity of the country, and to be answerable for any loss occasioned by depredations from whatever quarter. Saho would never, however, have recovered his superiority, but for the abilities of his minister Balaji Wiswanath, the founder of the Brahman dynasty of Peshwa. He was joint commander of the Mahratta troops that went to Delhi along with Husan Ali Khan, and ultimately obtained a ratification of the treaty by Muhammad Shah, A.D. 1720. This established the ascendancy of Saho over his rival; and Balaji before his death, in October 1720, had the satisfaction of seeing him placed above the assaults of enemies either foreign or domestic. Balaji Wiswanath was succeeded by his son Baji Rao, the ablest of all the Brahman dynasty, and of all the Mahratta nation, except Sivaji. He pointed out the tottering state of the Moghul empire, and urged Saho to permit him to carry his standard into the territories beyond the Nerbadda. Saho caught up his enthusiasm, and exclaimed, 'You shall plant it on Himalaya!' Saho died in 1748, after a long reign of 50 years. By the road-side near Satara is a cenotaph with a dog carved on it in a sitting posture, said to be the burial-place of a favourite dog of raja Saho which had once saved him from a tiger. He was eccentric, and was called the Veda Raja. He kept a palanquin establishment for the dog, and on one occasion dressed it in gold brocade and placed it in full darbar.

SAHRA. ARAB. A desert, a sandy plain, the sandy desert of Africa and Central Asia. The intense heat and cold of deserts is owing to the circumstance that among crystalline bodies, rock-crystal, or silica, is the best conductor of heat. This fact accounts for the steadiness of temperature in one set district, and the extremes of heat and cold presented by day and night on such sandy wastes as the Sahara. The sand, which is for the most part silica, drinks in the noonday heat, and loses it by night just as speedily. The influence of the hot winds from the Sahara has been observed in vessels traversing the Atlantic at a distance of upwards of 1100 geographical miles from the African shores, by the coating of impalpable dust falling upon the sails.

SAHRAI, a numerous Muhammadan tribe of the Indian desert, of which he was the terror. The Sahrai is a Muhammadan family from Sind, who governed at Kalat, until expelled by the Hindus, who subsequently were expelled by the Brahui. Sahrai is from Sahara, a desert, hence also Sarrazin or Saracen, from Sahara, desert, and Zaddan, to strike, contracted. The Khossa is a branch of the Sahrai, whom in habits he resembles, plundering on camels, but they are cowardly and faithless. — *Curiosities of Science*.

SAHREE. SIND. An earth found near Sehwan, in Sind, and sold at Hyderabad for a rupee a maund of 80 lbs. It is dissolved and soaked for 12 hours in water, and the paste formed is used for pottery.

SAHYADRI, the mountain range usually known as the Western Ghats. Throughout the Konkan the Sahyadi form a continuous chain of hills, interrupted, however, by deep depressions. In the latitude of Daman, 20½° N., the chain begins to sink abruptly in the Tapti valley, and changes its course, or sends off a spur of considerable elevation in an easterly direction, as the Chandor

Hills. The range thus runs from the Tapti river to Cape Comorin. The highest summits, such as the Mahabaleshwar, 4717 feet, are flat topped; the Neilgherry and the Pulney, also, which rise over 8000 feet, are plateaux. The southernmost portion is entirely separated by the broad Gap of Palghat. At Mahabaleshwar the rainfall amounts to 248 inches annually. In the Southern Konkan, especially in the Sawantwari district, the rains are as heavy as in Canara. At Bombay, the rains last from June till the end of September, and the fall is only 80 inches, which is considerably less than any point farther south on the coast. At Tanna, however, the average fall is more than 100 inches. **SAIFALI**, a section of the Kābul Khel Waziri, inhabiting the independent hills to the westward of the Bunnū thul. They entered into an agreement or treaty with the British to do all in their power, as far as their own tribe is concerned, to check and prevent the robbery or murder of British subjects, and to cause stolen property from British territory to be returned. This section of the Waziri is said to have been long unfavourably distinguished as receivers of stolen cattle and other property from the Bunnū district. — *Lahore Courant*.

SAIGA TARTARICA is the Antelope colus, *Smith*. It inhabits the open steppes and deserts from the Danube to the Irish eastward, and as far north as 54° of north lat., found in Poland, Moldavia, about the Caucasus and the Caspian Sea, in Siberia, and in Northern Persia. Their eyesight is said to be defective from the reflection of the dry arid plains upon which they mostly reside. — *Eng. Cyc.* p. 235.

SAIGON, called Luknooi by the Cochinchinese, is in lat. 10° 15' N., and long. 106° 43' E. The surrounding country abounds with timber and other necessary articles for ship-building. See Kobo.

SAIL. HIND. Slate or schist; a slate; a slab of stone.

SAIL. ARAB. A flood. Sailab or Sailaba, a flood of the great rivers, or overflow of waters from other sources. Sailabi, land watered by flood. Sail-al-Aram, also called Sail-ul-Mareb, the flood of Aram, a great calamity which befel the Arabs of Yemen, soon after the time of Alexander the Great. Abid-Shams, surnamed Saba, built the city of Saba, afterwards called Mareb, and made a great dam to form a reservoir. The water was 20 feet deep, and was utilized for irrigation; but one night it burst and carried away the whole city with the neighbouring towns and people. Mahomed mentions it in the Koran. See Arim; Balak; Mareb; Saba; Yemen.

SAILOR FISH, or Fan Fish of the Archipelago, is a species of *Histiophorus*. It is the Ikan layer of the Malay, the Zeyl fish of the Dutch.

SAIN, in Sind, is the Sahib of India, the Sir of England. — *Burton's Scinde*, i. p. 143.

SAINGRI or Sangri. HIND. The seed-pods of jhand, the *Prosopis spicigera*, one of the common shrubs of the rakh or preserves.

SAINHIKEYA. In Hindu mythology, an asura or giant, who stole amrita or nectar when the gods churned the sea of milk, for which Vishnu cut him into two pieces, called Rahu and Ketu, which are said to cause the eclipses.

SAINT HELENA, a volcanic island 2700 feet high in the S. Atlantic, with an ancient crater.

It has a peculiar, though limited flora. It belongs to Great Britain, and is in the tract of sailing ships from the Cape of Good Hope to Europe and America. The emperor Napoleon I. was detained here after the battle of Waterloo. It was formerly clothed with trees, but these have been destroyed; the soil being washed off, the island is now a bare barren rock.

SAINT HILAIRE, M. BARTHELEMY, a French author of great fame, the first historian of Buddhism; author of a *Life of Buddha*.

ST. JOHN'S ISLAND or Seberget, in lat. 23° 36' 20" N., and long. 36° 10' 15" E., is a small, circular, barren island on the African side of the Red Sea, with remarkably sharp peak of volcanic origin. It is said to have been once famous for its emeralds.—*Findlay*.

ST. JOSAPHAT. See Jataka.

ST. MARUTHA was a grandson of Oda, a pagan priest of Mesopotamia. He obtained from Yezdejird, to whom he was accredited by Theodosius as an ambassador, the alleviation of the Christian persecution, and persuaded him to make an alliance with Theodosius the younger.

ST. SIMON STYLITES, a Christian ascetic, who lived for many years on a pillar, the remains of which are still shown to pilgrims. The monastery of St. Simon is about 18 miles N.W. of Aleppo, and in the 6th and 7th centuries was famous from the sanctity of this saint. Mount St. Simon is called by the people Jabal Shaikh Barakat, the mount of the blessed, holy man.

ST. THOMAS. Gibbon says, 'According to the legend of antiquity, the gospel was preached in India by St. Thomas. At the end of the ninth century, his shrine, perhaps in the neighbourhood of Madras, was devoutly visited by the ambassadors of Alfred, and their return with a cargo of pearls and spices rewarded the zeal of the English monarch, who entertained the largest projects of trade and discovery. When the Portuguese first opened the navigation to India, the Christians of St. Thomas had been seated for centuries on the coast of Malabar, and the difference of their character and colour attested the mixture of a foreign race. In arms, in arts, and possibly in virtue, they excelled the natives of Hindustan; the husbandmen cultivated the palm tree, the merchants were enriched by the pepper trade, the soldiers preceded the Nairs or nobles of Malabar, and their hereditary privileges were respected by the gratitude or the fear of the king of Cochin and the Zamorin himself. They acknowledged a Gentoo sovereign; but they were governed even in temporal concerns by the Bishop of Angamala. He still asserted his ancient title of metropolitan of India, but his real jurisdiction was exercised in fourteen hundred churches, and he was entrusted with the care of two hundred thousand souls. Their religion would have rendered them the firmest and most cordial allies of the Portuguese; but the inquisitors soon discerned in the Christians of St. Thomas the unpardonable guilt of heresy and schism. Instead of owning themselves the subjects of the Roman Pontiff, the spiritual and temporal monarch of the globe, they adhered, like their ancestors, to the communion of the Nestorian Patriarch; and the bishops whom he ordained at Mosul traversed the sea and land to reach their diocese on the coast of Malabar. In their Syriac liturgy, the names of Theodore and

Nestorius were piously commemorated; they united their adoration of the two persons of Christ; the title of Mother of God was offensive to their ear, and they measured with scrupulous avarice the honours of the Virgin Mary, whom the superstition of the Latins had almost exalted to the rank of a goddess. When her image was first presented to the disciples of St. Thomas, they indignantly exclaimed, "We are Christians, not idolaters!" and their simple devotion was content with the veneration of the cross. Their separation from the western world had left them in ignorance of the improvements or corruptions of a thousand years; and their conformity with the faith and practice of the fifth century would equally disappoint the prejudices of a papist or a protestant. It was the first care of the ministers of Rome to intercept all correspondence with the Nestorian Patriarch, and several of his bishops expired in the prisons of the holy office. The flock, without a shepherd, was assaulted by the power of the Portuguese, the arts of the Jesuits, and the zeal of Alexis de Menezes, Archbishop of Goa, in his personal visitation of the coast of Malabar. The synod of Diamper, at which he presided, consummated the pious work of the reunion, and rigorously imposed the doctrine and discipline of the Roman Church, without forgetting auricular confession, the strongest engine of ecclesiastical torture. The memory of Theodore and Nestorius was condemned, and Malabar was reduced under the dominion of the Pope, of the Primate, and of the Jesuits who invaded the see of Angamala and Cranganore. Sixty years of servitude and hypocrisy were patiently endured; but as soon as the Portuguese empire was shaken by the courage and industry of the Dutch, the Nestorians asserted with vigour and effect the religion of their fathers. The Jesuits were incapable of defending the power which they had abused; the arms of forty thousand Christians were pointed against their falling tyrants; and the Indian archdeacon assumed the character of a bishop, till a fresh supply of episcopal gifts and Syriac missionaries could be obtained from the Patriarch of Babylon.'—*Gibbon, Ch. 47; La Croze Christianisme des Indes; Geddes' Church History of Malabar*.

SAINT THOMAS' MOUNT, a military station of the British, ten miles south-west of Madras. It is famed amongst eastern Christians as the site of the martyrdom of St. Thomas, and the church on the summit of the hill is visited by pilgrims even from Syria. It is the Romanist Portuguese Church of the Expectation of the Blessed Virgin, and is built over the spot where the Portuguese in 1547 discovered a cross. According to Dr. Burnell, the date of the cross tablet and its Pehlavi inscription is probably about the 8th century. Population in 1874 was 15,480, Europeans, East Indians, Muhammadans, Pariahs, Vallalar, and Idagai (Idagen). It was plundered in 1752 by the troops of Chunda Sahib, under his son Raja Sahib, and the advanced force of Hyder Ali later in the century again plundered it. The Little Mount is on the right bank of the Adyar river, three miles nearer Madras.

ST. THOME, or Mylapore, in lat. 13° 1' N., a southern suburb of Madras, in the district of Chingleput, and about three miles from Madras to the south. St. Thome was one of the most

important stations of the Portuguese on the Coromandel coast. It subsequently belonged successively to the French, the Dutch, the king of Golconda, the nawab of Arcot, and has been in British possession since the wars in the Carnatic. Its native name is Mailapur, often in travellers' accounts written Meliapore.—*Calcutta Rev.*, 18th Jan. 1871.

SAIR. ARAB., HIND. Transit duties; a due or tax levied on certain wild products, other than cultivated lands; such as on date trees, fisheries, and grass, etc. In revenue accounts, all receipts other than land revenue is sair.

SAIR-ul-MUTAKHIRIN, by Gholam Husain, a work of surprising industry. A translation in three quarto volumes was published in India in 1789 by Mustafa, a renegade Frenchman, but a large portion of the impression was lost on the voyage to England. General Briggs translated a sixth part of it. Sir Charles Trevelyan while Governor of Madras reproduced part of the original in Roman character.

SAIVA, a sectarian Hindu, follower of Siva. Many Saiva Hindus believe in the three Hindu gods, Brahma, Vishnu, and Siva, as triune, and many Saiva are essentially polytheists; but Vaishnava Hindus are rarely in accord in this, and the bulk of the Hindu religionists regard Siva, Vishnu, and Brahma as distinct deities. The Saiva sect far outnumber the Vaishnava. The essential element in the Saiva faith is a reverence for, or deification of, the reproductive power with the emblems of the lingam and the yoni, and their philosophy seems to be a simple physiological idea of creation, made to assume a religious form. It has also, however, been supposed to represent the Buddhist doctrine of gradual perfectibility (raising man almost to the rank of a god). The Vaishnava creed is one of a separate creation of a god and his occasional incarnation in the form of man and animals.

The Saiva are worshippers of Siva, in one of his many forms.

The Ganapatya worship Ganesa.

The Sakta exclusively worship the sakti or female energy.

The Ganapatya and the Sakta are subdivisions or ramifications of the Saiva, of which may be traced these distinctions,—1. Saiva proper, meaning the worshippers of Siva and Parvati conjointly; 2. Lingi or Langaet, the adorers of Siva, or his phallic type, separately, and these are a very strict and rigid sect; 3. Sakta, the adorers of the yoni of Bhavani, or her symbol, separately; 4. the Ganapatya, the exclusive worshippers of Ganesa, the first-born of Mahadeva and Parvati. The Ganapatya adore Ganesa as uniting in his person all the attributes of the deity. The Vira Saiva are very numerous in all the Canarese-speaking countries, and are distinguishable by their wearing the lingam in a silver or gold casket fastened round their arm or suspended from the neck.

The Avadhuta or Abd'hut of the south of India, is a religious mendicant of the Saiva Hindus, who, similarly to the Virakta Vairagi, has subdued the passions and estranged himself from the interests and emotions of mankind, abandoning religious observances and worldly restraints. The Sakta have two classes of these,—one the Vyakta-vadhuta, or professedly free; the other, Gupta-vadhuta, who

privately throw off the usual restrictions of caste.

The Akas-mukhi is a Saiva devotee, who retains his head so long in the position of looking to the sky, that he cannot restore the neck to its proper position.

Saiva sectarians of S. India worship 63 deified heroes, designated Adiyars.

SAJADA. ARAB. In the ritual of Muhammadan prayer, a single prostration with the forehead touching the ground. It is performed from a sitting position, after the Dua or supplication that concludes the two prostration prayers. Some of the Ulema, especially those of the Shafei school, permit this 'Sajada of thanks' to be performed before the prostration prayer, if the visitor have any notable reason to be grateful.—*Burton's Mecca*, ii. p. 67.

SAJJI. HIND. Impure carbonate of soda, prepared from the alkaline soil called dhobi's earth, and also by burning the Caroxylon Griffithii and other plants growing on the shores of the salt lakes which are scattered through the Indian deserts. In the Panjab, the castes principally employed in the manufacture of sajji are the Chura, Dhobi, Numari, and a few Arura. Sajji matti, or soda earth, is found in many parts of India. Sajji is made in considerable quantities in the districts of Multan, Jung, Jhelum, and Thanessur, by burning plants of the genus *Salsola*, a few of the *Chenopodiaceæ*, species of the genera *Caroxylon* and *Salicornia*, also *Sueda frutescens*. It is extensively used in soap-making and calico-dyeing.—*J. A. Murray*.

SAK. HIND. Bark of the kikar and other barks, put into the fermenting mass in spirit distilling.

SAK or Thok or Thak, called Chatu or Chat by the Bengali, a small tribe who inhabit the eastern branch of the Naf river in Arakan, in lat. 21° 20' N., and long. 21° 30' E., about 25 miles east from Elephant Point near the Koladyn river.

SAKA. ARAB. A water-carrier.

SAKA or Sak'ha. SANSK. A branch, the branch of a tree; a tribe, a clan.

SAKA. SANSK. Any era; the era of prince Salivahana, commencing in the 77-78th year of the Christian era, and to be identified with that by adding 784; thus the Saka year 1800 began towards the end of March (A.D.) 1878. It is said to have been called after Sakaditya, brother of Vikramaditya. Dr. Bhau Daji supposed the Saka king to be the Kshaparata Nahapana. The oldest Sanskrit works and the copperplate grants extant are dated in this era. The Vikrama Samvat is coeval with the defeat of the Saka by Vikramaditya. The Saka Nripa Kala, identical with the Salivahan era, is coeval with the conquest of Malwa by the Saka.

Saka Kala, or the era of the Saka, has been confounded even by native writers, sometimes with the first and sometimes with the second event, leading to a mistake of 135 years in their calculations.—*Dr. Bhau Daji*.

SAKA, a race mentioned in the Mahabharata, Puranas, and other religious works, also in the rock inscriptions and on copperplate grants, and generally recognised to be Scythians; other Scythian tribes in India being the Hun and the Naga. The races whom the Greeks call Scythæ, called themselves Scoloti according to Herodotus,

and the Persian equivalent of Scythæ was Sakæ. The Scythians east of the Caspian were called by the Greeks Saka and Massagete, the last probably the Maha-Jat or Great Jat of the Panjab. The Saka overthrew the Greco-Bactrian kingdom in Afghanistan, and other branches extended their possessions towards the south, occupied Sind and the countries of the lower Indus under Mayes and his successors Azes and Azilaus. Once their progress was checked by Vikramaditya, the Hindu king of Malwa, who, B.C. 56, signally defeated them, assumed the title of Sakari, and established an era which still bears his name. In Prakrit works Saka is written Saga. From between the parallels of lat. 30° and 50° N., and from long. 75° to 95° E., the highlands of Central Asia, migrated the Saccæ or Scythic races, which passed into Europe and within the Indus. The Takshak, the Gete, the Kamari, the Katthi, and the Hun came from Sakitai or Sakadwipa, and from the Dashti-Kapchak, crossed the Jaxartes or Jihun, and crossed the Paropamisian range into the plains of Hindustan.

SAKADWIPI, a tribe of Brahmans, chiefly remarkable for their great numbers, and for the fact that they will drink from a vessel from which another person has already drank.—*Cal. Rev.*, No. 110.

SAKAI, a pagan population in the Malay Peninsula divided into the Sakai Jina and Sakai Bukit, the latter being hill-men and mountaineers, the former more settled and civilised. They are worshippers of the elements. Sakai is the Pahang word for an aboriginal. The Halas is a branch of the Sakai population of the Malay Peninsula. They tattoo their face and breast, pierce their ears and nose, and insert porcupine quills. The Orang Sakai, of Sink, manufacture sago meal. The sago plantations belong to Malays, who employ the Sakai, allowing them one-half of the produce. On this and wild animals the Sakai subsist, and the sago which they do not require they dispose of to Malays in barter for cloth, tobacco, etc.

SAKALA or Sangala, an ancient town in the Panjab, the She-kie-lo of Hiwen Tshang. It was the capital of Raja Milinda, was subject to Raja Mihirkul, is the Sangala of Alexander, and has long ago been recognised in the Sakala of the Brahmans and the Sagala of the Buddhist. It was visited by the Chinese pilgrim Hiwen Tshang in A.D. 630. Both Arrian and Curtius place Sangala to the east of the Hydrates or Ravi; but the itinerary of Hiwen Tshang shows that it was to the west of the Ravi, and as nearly as possible in the position of the present Sanglawa-Tiba or Sangala Hill. Wilford three times described its position in the Asiatic Researches. When Hiwen Tshang visited the city there was a monastery of 100 monks who studied the Hinayana, or exoteric doctrines of Buddhism, and beside it there was a stupa, 200 feet in height, where the four previous Buddhas had left their footprints. The Brahmanical accounts of Sakala have been collected from the Mahabharata by Professor Lassen in his *Pentapotamia Indica*. According to that poem, Sakala, the capital of the Madra race, who are also called Jartika and Bahika, was situated on the Assaga rivulet to the west of the Iravati or Ravi river. The country is still well known as Madra-des, or the district of the Madra, which is said by some

to extend from the Beas to the Jhelum, but by others only to the Chenab. The Buddhist notices of Sakala refer chiefly to its history in connection with Buddhism. There is the legend of the seven kings who went towards Sagal to carry off Prabhavati, the wife of king Kusa. But the king, mounting an elephant, met them outside the city, and cried out with so loud a voice, 'I am Kusa! that the exclamation was heard over the whole world, and the seven kings fled away in terror.' This legend may have some reference to the seven brothers and sisters of Amba-Kapa, which is only 40 miles to the east of Sangala. Before the beginning of the Christian era, Sagal was the capital of Raja Milinda, whose name is still famous in all Buddhist countries as the skilful opponent of the holy Naga-Sena. The territory was then called Yona or Yavana, which might refer either to the Greek conquerors or to their Indo-Scythian successors; but as Naga-Sena is said to have lived either 400 or 500 years after Buddha, the date of Milinda is uncertain.—*Cunningham's Ancient India*, p. 179.

SAKALELI, dancing parties of birds at their pairing season, practised by the turkey of North America, the seven brothers of India, and the paradise birds of the Aru Islands.

SAKALI or Sakaliga, a homeless tribe in the Ceded Districts, and in Mysore itinerant grain dealers.

SAKAR. SIND. An embankment. This gives the name to Sakar or Sukker, a town on the Indus opposite Kori, where is a natural limestone mound about 100 feet high.

SAKAR, of Shahpur, a huge clay vessel for strong grain.

SAKARI, a title of Vikramaditya, king of Ujjain, given to him because of his successful opposition of the Saccæ, an Indo-Scythic tribe who settled along the Lower Indus.

SAKATAI or Chaghtai, the Sakadwipa of the Purana, corrupted by the Greeks to Scythia, whose inhabitants worshipped the sun.

SAKHA, in Hindu music, a notation. Only three Sakha are now known to Hindus in India,—the Rānāyāniya, Kauthuma, and Jaiminiya. The first two are common, and only differ a little in the way of chanting; the Jaimini text appears to agree with the others except in a few details; the notation of the chant is totally different.—*Dr. Burnell*.

SAKHAIIN is the Aino name, Isoka of the aborigines, Oku Yesso of the Japanese, Schalien of the Russians, the Karapto of old writers; also Ula-hata; also Augo-hata, or Island of the Black River; also Amur. Siebold and Keith Johnston call it Tarakai, but the usual name is Sakhalin, from Sugaun, one of the names of the river Amur. The lips of the women are tattooed of a plebeian black colour; they part their hair down the middle. They have metal ear-rings, and those on the coast wear silver-grey or spotted seal-skins, with long boots of the same materials. They have a leather waist-belt as a cæstus veneris.—*Arthur Adams' Travels*.

SAKHI BHAVA, a sect of Vaishnava Hindus in Northern India, who adopt Krishna and his mistress Radha for their special worship. They assume the female garb, and the dress, ornaments, manners, and occupations of women. See Hindu.

SAKHI SARWAR, a famous Muhammadan shrine in Dehra Ghazi Khan district, Panjab; lat. 30° N., long. 70° 10' 30" E. The shrine crowns the high bank of a hill stream at the foot of the Suliman range, in the midst of arid desert scenery. Founded in honour of Saidi Ahmad, afterwards known as Sakhi Sarwar, the son of Zain-ul-Abidin, an immigrant from Baghdad, who settled at Sialkot, 12 miles east of Multan, in the year 1220. Zain-ul-Abidin was a descendant of Ali, and dreamt that Mahomed stood by his side, commanding him to proceed to India to convert the idolaters. Accordingly he reached Sialkot, where he married a daughter of Rahan Khan, Afghan, and had two sons, Syed Dhoda and Syed Ahmad. Ahmad became a devotee, and, having performed a very remarkable series of miracles, was presented by the Delhi emperor with four mule-loads of money, with which the Sakhi Sarwar shrine was erected. A handsome flight of steps leads from the bed of the stream to the building, constructed at the expense of two Hindu merchants of Lahore. The buildings include—the mausoleum of Sakhi Sarwar himself; a monument of Baba Nanak; the tomb of Massamat Bibi Bai, wife of Sakhi Sarwar; and a thakurdwara. They thus comprise a curious mixture of Hindu and Muhammadan architecture, and are frequented by devotees of all religions. The guardians of the shrine are the descendants of Sakhi Sarwar's three servants, always miraculously limited to the number of 1650, among whom the revenues accruing from the offerings are equally divided. Throughout the year, the shrine forms the resort of numerous mendicants, Hindu and Muhammadans.—*Imp. Gaz.* viii.; *MacGregor*, iii. p. 61.

SAKI or **Sake** is the general name given in Japan to the alcoholic liquid prepared by the fermentation of rice. There are many kinds of it, each receiving a specific name. Saki beer has 11 to 17 per cent. of alcohol. At an entertainment there, a pair of chop-sticks was placed at each corner of every table, in the centre was an earthen pot filled with saki, surrounded with four acorn cups, four large coarse china cups, with clumsy spoons of the same material, and four tea-cups of tea. Cups of tea were first handed round, these were followed by very small cups of saki, which had the taste of French liqueur.—*American Exped.* p. 218.

SA-KING of Siam. Sir R. Schomburg saw, at the building sheds of the first king, a log of this wood, which was being prepared for the construction of a war canoe, measuring 135 feet, and perfectly sound and without a flaw. It possesses the property of being easily bent by artificial means.

SAKIA PAKSHAM. SANSK. The light half of the month.

SAKILAWIA, a canal which leaves the Euphrates 5½ miles N.W. of Felujia. It crosses Mesopotamia by a tortuous eastern course on the N. side of Akar Kouf, and enters the Tigris at a point 5 miles below Baghdad, after a course of 45 miles. It is the ancient I'sa canal.—*MacGregor*.

SAKRANT, also Sankrant, also Makar-Sankrant, a Hindu festival, held on the day that the sun enters the sign of Makar at the winter solstice. On this night, in ancient India, a horse was sacrificed to the sun or Bal-nath, the god Bal. Hindus now bathe in the sea, rub their bodies with sesamum seeds, and entertain friends. The festival

of the sun, with the Getæ and Aswa nations of the Jaxartes, as with those of Scandinavia, seems to have been the winter solstice, the Sakrant of the Rajput and Hindu in general. The ceremonial of the horse's return after a year evidently indicates an astronomical revolution, or the sun's return to the same point in the ecliptic. The return from his southern declination must have been always a day of rejoicing to the Scythic and Scandinavian nations, who could not, says Gibbon, fancy a worse hell than a large abode open to the cold wind of the north. To the south they looked for the deity; and hence, with the Rajputs, a religious law forbids their doors being to the north.—*Tod's Rajasthan*, i. p. 676. See Astronomy.

SAKTA, a sect of Hindus who worship the female principle according to the ritual of the Tantra. Of these there are two divisions,—the Dakshina Chari or right-hand ritualists, and the Vama Chari or left-hand ritualists. The worship of the right-hand division is public, and is addressed to the goddesses, in the forms of Durga, Bhavani, Parvati, Lakshmi, Maha Lakshmi, and others. The left-hand ritualists worship, in preference, the Tantrica impersonations of Durga, as Devi, Kali, Syama, etc., or a woman representing the Sakti. Their worship is private and unavowed, and is much talked about as the oriental form of the Eleusinian mysteries. Wilson thus describes the left-hand sect (i. p. 257): 'All the principal ceremonies comprehend the worship of Sakti, and require for that purpose the presence of a female as the living representative and the type of the goddess. This worship is mostly celebrated in a mixed society, the men of which represent Bhairavas or Viras, and the women Bhairavis and Nayikas. The Sakti is personated by a naked female, to whom meat and wine are offered and then distributed amongst the assistants, the recitation of various Mantras and texts, and the performance of the Mudra, or gesticulations with the fingers, accompanying the different stages of the ceremony, and it is terminated with the most scandalous orgies amongst its votaries.' The Rev. J. Burgess, writing in 1874, mentions that at Jannagar, in Kattywar, there was a Nanak-panthi ascetic who dressed in silks and satins, physically a magnificent man, and that Saktism was secretly practised there. Mr. C. P. Brown, whose means for information were very great, and who lived through a great part of the 19th century, said that Sakta puja had never extended into the Madras Presidency. The Editor also never heard there of any of the alleged impurities. In the district of Tinnevely the Saktas will not admit that they do more than eat flesh and drink toddy together. The theory of the Saktas is said to be the following: The extinction of desire is the great aim of Hinduism. The other sects seek it by the mortification of the passions; the Saktas by their gratification.

The Hindu worshippers of the Sakti, the power or energy of the divine nature in action, are numerous amongst all classes of the Hindus. In their mythology, this active energy is impersonated in the forms of the three female deities,—Lakshmi, Parvati, and Saraswati, the consorts respectively of Vishnu, Siva, and Brahma. The worship of the female principle, as distinct from the divinity, appears to have originated in the literal interpretation of the metaphorical language

of the Vedas, in which the will or purpose to create the universe is represented as originating from the Creator, and co-existent with him as his bride and part of himself. Thus, in the Rig Veda, it is said 'that divine spirit breathed without affliction single, with (Swadha) her who is sustained within him, other than him nothing existed. First, desire was formed in his mind, and that became the original productive seed.' Also, the Sama Veda, speaking of the divine cause of creation, says, 'He felt not delight, being alone, he wished another, and instantly became such. He caused his own self to fall in twain, and thus became husband and wife. He approached her, and thus were human beings produced.' It is probable that these legends may relate to the primitive tradition as to the origin of mankind, but there is in them also a figurative representation of the first indication of wish or will in the Supreme Being. Another set of notions of some antiquity, which contributed to form the character of the Sakti, whether general or particular, were derived from the Sankhya philosophy. In this system, nature, Prakriti, or Mula Prakriti, is defined to be of eternal existence and independent origin, distinct from the Supreme Spirit, productive though no production, and the plastic origin of all things, including even the gods. In the Puranas, especially in the Brahma Vaivartta Purana, Prakriti or Maya bears a prominent part, for from the Sankhya philosophy, Prakriti has come to be regarded as the mother of gods and men; whilst as one with matter, the source of error, it is again identified with Maya or delusion, and as co-existent with the Supreme as his Sakti, his personified energy or his bride. According to the Prakriti Khanda section of the Brahma Vaivartta Purana, Brahma, or the Supreme Being, having determined to create the universe, became two-fold, the right half becoming a male, the left half a female, which was Prakriti. She was of one nature with Brahma. She was illusion, eternal and without end; as is the soul, so its active energy,—as the faculty of burning is in fire. It is from the Tantas that the rites and formule of the worship of Prakriti or Sakti are obtained. They are numerous, of great extent, and in the form of a dialogue between Siva and his bride. The earliest record of Sakti is in the Periplus.

It is related that the energy of each god, exactly like him, with the same form, the same decorations, and the same vahan (vehicle), the Sakti of Brahma, girt with a white cord and bearing a hollow gourd, arrived on a car yoked with swans; her title is Brahmani. Maheswari came riding on a bull, and bearing a trident with a vast serpent for a ring and a crescent for a gem. Kumara, bearing a lance in her hand, and riding on a peacock, being Ambica in the form of Kartikeya, came to make war on the children of Diti, the giants, or Asura. The Sakti named Vishnavi also arrived sitting on an eagle, and bearing a conch, a discus, a club, a bow, and a sword in her several hands. The energy of Hari, who assumed the form of the boar, likewise came there, assuming the body of Varahi. Narasimhi, too, arrived there embodied in a form precisely similar to that of Narasimha, with an erect mane reaching to the host of stars. Aindri (Indrani) came bearing the thunderbolt in her hand, and riding on the king of elephants, and in every

respect like Indra, with a hundred eyes. Lastly came the dreadful energy named Chandika, who sprang from the body of Devi, horrible, howling like a hundred jackals. She, surnamed Aparajita, unconquered goddess, addressed Isana, whose head is encircled by his dusky braided locks.

Eight of these Sakti are more particularly recorded, their names are the following :—

Maheswari, Sakti of Mahesa, or Siva.
Brahmi, or Brahmani, Sakti of Brahma.
Narayani, Sakti of Narayana.
Aindri, Sakti of Indra.
Kumara, Sakti of Kartikeya.
Varahi, Sakti of Vishnu of the Vahar avatara.
Narasimhi, Sakti of Vishnu in the Narasing avatara.
Aparajita, a form of Bhavani, Sakti of Siva.

Mr. Paterson (As. Res. viii. p. 68) remarks that Aparajita may be the Aphrodite of the Greeks, and Maheswari, or the female Siva, riding on a white bull, may have given rise to the story of Europa's rape; while Brahmi, or the female Brahma, with the swan, may in like manner have been the origin of the fable of Jupiter and Leda. Bhavani is, however, oftener seen on a lion or tiger than on Nandi, the vahan bull of her spouse. In some places they are thus enumerated,—Brahmi, Maheswari, Aindri, Varahi, Va'shnavi, Kumara, Chamunda, and Kartika. Some reduce the number to seven; omitting the two latter, and adding Cauveri. The worshippers of these Sakti are called Saktas. The emblem of worship is the yoni. One branch of the Sakti worshippers has been said to be so grossly licentious that they are held in detestation by other sects, and even by a large portion of their own; but this statement cannot be verified.

The Hindu goddesses are uniformly represented as the subordinate powers of their respective lords; thus Lakshmi, the consort of Vishnu, the preserver, is the goddess of abundance and prosperity; Bhavani, the wife of Siva or Mahadeva, is the general power of fecundity; Uma and Gauri, also, are gentle forms of the Sakti of Siva; while Durga and Vali are the severe forms.

Chamunda and Chandika are hideous goddesses, who attend upon Siva as Bhairava, the terrific, destructive deity, who is propitiated by offerings of wine and flesh.

Saraswati, whose husband was the creator Brahma, possesses the powers of imagination and invention, which may justly be termed creative. She is therefore adored as the patroness of the fine arts, especially of music and rhetoric; as the inventress of the Sanskrit language, of the Devanagiri writing characters, and of the sciences which writing perpetuates; so that her attributes correspond with those of Minerva Musica of Greece or Italy, who invented the flute, and presided over literature.

Lakshmi or Maha Lakshmi is the Sakti or consort of Vishnu.

Dr. Hunter says (Imp. Gaz. iv. p. 804) left-hand worship is an organized five-fold ritual of incantation, lust, gluttony, drunkenness, and blood. The Vami or Vama Chari worship comprises the five-fold Mukara, which takes away all sin, viz. Mansa, flesh; matsya, fish; madya, alcoholic fluids; maithuna, sexual intercourse; and mudra, mystical gesticulations. There is nothing of this kind in the south of India.—C. P. Brown; Wilson's Hindu Sects; Wilson's Gloss.;

Paterson and Colebrooke in v. viii. As. Res.; Coleman, Mythology of the Hindoos, p. 121; Raja Mucuta on the Amaracosa; Moor's Pantheon; Hind. Theat. ii. p. 52.

SAKTA. **SANSK.** A division of a hymn. The worship of the Vedic race is briefly but comprehensively described by themselves, where it is said, 'The standers around associate with (Indra) the mighty (sun), the indestructive (fire), the moving (wind), and the lights that shine in the sky.'

SAKTA BHAKHTA, worshippers of the female energy, who make the universe to be developed by an inherent power in matter. They use feminine terms and symbols, and practise the magical rites of the Atharvana Veda, which has been termed the black Veda; and the whole is sometimes termed the Tantrica system.—*Taylor*.

SAKTI NATH, the lord of Sakti, or the divine energy under a female personification. In this sense Sakti is applicable to every goddess, but it is more especially the name of Bhavani, and her lord or husband in Siva. Sakti-puja, or Sakti-worship, a Hindu form of worshipping the Sakti.

SAKUNA of Vasantaraja, a Sanskrit poet of the twelfth or thirteenth century, is a poem on the auguries to be derived from the cries and general demeanour of birds. It is important philologically, and as an illustration of Hindu habits of mind. Dr. Hultzsch's Prolegomena include several specimens of the text.

SAKUNTALA, or the Lost Ring, an ancient Sanskrit drama by Kalidasa; translated by Sir William Jones and by Professor H. H. Wilson, 1827. In the drama Sakuntala is described as the daughter of the rishi Visvamitra by the apsara Menaka, who was sent from heaven by Indra to allure the sage. Sakuntala was the offspring, and was brought up by the rishi Kanva in a forest hermitage south of Hastinapura. King Dushyanta, the reigning monarch, beheld her on one occasion when hunting in the forest, and persuaded her to marry him, giving her his ring as a token. Dushyanta then returned to his own city, and Sakuntala continued in her father's cottage. Durvasa, a sage, visited her home, but he did not receive sufficient attention from her, her thoughts being with her husband. This irritated the sage, who prayed she might be forgotten by the man she loved; but relenting somewhat afterwards, he said her husband on seeing the ring should recognise her. Finding herself enceinte, she set off for her husband's palace, but while bathing on the way, the ring fell from her finger and was lost, and the king failed to recognise her. Her mother took her back to the forest, where she bore a son, whom they called Bharata. But it so happened that a large fish was caught, and Dushyanta's ring was found in its belly, and taken to him. When he saw it all his recollection of the lovely Sakuntala returned, and he hastened to the forest, where he saw Bharata playing with young sucking lions, and putting aside their mother. Presently Sakuntala appeared, and he recognised her, and knew that the boy was his son. He took them to his city, made Sakuntala his chief queen, and declared Bharata his successor. The poet Kalidasa dramatized the story in Sanskrit under the title of Sakuntala, or the Lost Ring. Buddhism still exists among the characters

of the piece, but had lost its ascendancy, and Siva is the chief object of worship.—*Garrett; Dawson*.

SAKYA, the tribal name of Buddha. Hairs of his head are said to be in the Shoay-dragon at Rangoon; his thorax bone (breast bone?) in the dagoba at Bentenne near Kandy in Ceylon; a canine tooth, after several changes, was taken to Ceylon, A.D. 311; another tooth was placed in a tope on the island of Salsette in Bombay harbour, —it was opened by Dr. Bird, but tooth not found; another at Nagrak in N. India.—*Fergusson*, pp. 59, 60.

SAL. **HIND.** A year. Sal-girah or Baras-ganth is the anniversary of a person's birth, on which a knot is added on a string kept for the purpose. A girl's years are numbered by a silver loop or ring being added yearly to the gardani or silver neck-ring.—*Herk*.

SALABAT JUNG, son of Nizam-ul-Mulk. His brother Nasir Jung in 1750 brought him into the Carnatic a prisoner, but in February 1751, on the death, at Cuddapah, of Muzaffar Jung, he was released and proclaimed Subah. He took Kurnool, and advanced to Hyderabad, where he pacified the French troops, and then in May advanced to Aurangabad, which he reached on the 18th June. In July he purchased a peace with the Mahrattas, and proceeded against the Nirmul raja, whom he defeated, and after this he sent to the Marquis Dupleix a sunnud of nawab of the Carnatic. In 1755, he proceeded to Seringapatam, and exacted 52 lakhs of rupees as tribute. In 1756, he came to a rupture with the French under M. Bussy, dismissed and pursued them, and sought the aid of the British from Madras.—*Orme*.

SALAB MISRI. **HIND.** Salep, the root of *Orehis mascula*, *Eulophia*, and other plants.

SALAGRAMA, fossil ammonites, revered and worshipped by the Hindus; supposed by some to be the zebres or eagle stones of the ancients. The principal sorts are the Lakshmi Narayani, the Vamuna, the Demodura, the Narasingha, etc. Their abundance in the beds of mountain torrents, especially the Gandak, has been long known. They form an indispensable article in the sacra of the Hindus, and are used in propitiatory oblations to Vishnu, as well as in funeral and other ceremonies. They are black, mostly rounded, and are commonly perforated in one or more places by worms, or, as the Hindus believe, by Vishnu, in the shape of a reptile. According to the number of perforations and of spiral curves in each, the stone is supposed to contain Vishnu in various characters. For example, such a stone perforated in one place only, with four spiral curves in the perforation, and with marks resembling a cow's foot and a wreath of flowers, contains Lakshmi Narayani. The salagrama is fossilized with iron, clay, and pyrites, strikes fire with steel, but scarcely at all effervesces with acids; some very heavy, commonly black, but sometimes violet, oval or round, a little flat, nearly resembling a touch-stone, and hollow, with only one small aperture; within it has spiral lines terminating towards the middle. Some are supposed to represent the gracious incarnations of Vishnu, and are then highly prized; but when they border a little on the violet, they denote a vindictive avatar, such

as Narasingha, when no man of ordinary nerve dares keep them in his house. The possessor of a salagrama preserves it wrapped in clean cloth. It is frequently perfumed and bathed; and the water thereby acquiring virtue, is drunk, and prized for its sin-expelling property. It is always placed near persons when they are about to die. A garden or plantation is consecrated by the Hindus by marrying the salagrama stone carried by one man to represent the groom, to a branch of the tulsi tree carried by another to represent the bride. It is the usual marriage ceremony, somewhat modified; and after this consecration, the fruit can be eaten. Mr. Dunlop found two extensive lias beds at Takuli Shem, in Hundes, with numerous salagram, which are thence taken to Badrinath and Kailas. Hindus are averse to show them. The Grihadeva or household deity is sometimes represented by a water-pot, a rude figure, a salagrama, or a tulsi plant. The stones, called Ban-ling, found in the Nermada, are similarly considered as types of Siva, but they are not fossils, merely stones rounded by attrition.—*Sonnerat*; *Gerard*, October 1830; *As. Res.* iii. p. 24; *Cole. Myth. Hind.*; *Moor's Pantheon*; *Wilson's Gloss.*

SALAH-ud-DIN, the Saladin of English writers, a distinguished Kurd soldier of the twelfth century, who opposed the Crusaders led by Richard Cœur de Lion. Salah-ud-Din, the son of Ayyub, a Kurdish chief, early became attached to the service of his uncle Asad, usually called Shirkuh, who commanded the army of Nur-ud-Din, king of Aleppo, a strong upholder of the Abbasside khalifs. Salah-ud-Din Yussuf was still very young, when two vizirs of Egypt, the ministers of the Fatimite khalif, residing at Cairo, quarrelled, and one of them succeeded in banishing the other. The exile Shauar betook himself to Aleppo, and Nur-ud-Din offered him the help of Shirkuh and his Kurds to reinstate him. But Shauar soon quarrelled with the wild mercenaries, and made an alliance against them with Amaury or Amalrich, the crusader king of Jerusalem. Shirkuh, with the help of his nephew, defeated them both; and, taking Cairo, put Shauar to death, and annexed Egypt to the possessions of his master, Nur-ud-Din. The Fatimite khalif, a mere puppet, conferred on him a robe of honour, and gave him the title of Malik-al-Mansur, or Victorious King. He was thus serving Nur-ud-Din of Aleppo and both the rival khalifs. His servitude did not hinder him, however, and his nephew from establishing their power in Egypt. Shirkuh lived long enough to secure his nephew a firm hold upon Egypt, and the title of Malik-al-Nasr—which means nearly the same as Malik-al-Mansur—from the Fatimite khalif in his palace or state prison. Nur-ud-Din sent word to Saladin from Aleppo that he must not receive these favours from a heretic, and ordered him to proclaim the Sunni khalif. Saladin desired the preachers in the Cairene mosques to omit the name of the Fatimite khalif from their prayers, and to replace it with that of the Sunni Commander of the Faithful, and Al Aaad, buried in the recesses of his palace, knew nothing about it. Saladin's life after this was one of uninterrupted prosperity. Nur-ud-Din died just when he might have become troublesome; so did Nur-ud-Din's little boy. As king

of Egypt, and of Syria all but Palestine, Saladin turned his attention next to the Crusaders and their little kingdom. After the fatal field of Hattin, Jerusalem itself fell into his hands. This was the culminating point in his life, and he died himself in 1193, having exercised undisputed power for five years. His family quarrelled among themselves; his own descendants were dethroned, and those of his brother formed the Eyubite dynasty of Egyptian sovereigns, which reigned with varying fortunes for eighty years, one of the last being another Salah-ud-Din, whose army, when he himself was dying or dead, took St. Louis prisoner at Damietta.

Salah-ud-Din built a fortress on the modern town of Ajlun, and near the Wady Yabees; also Es Salt, where is the tomb of the prophet Hosea, 30 feet long and 3 feet wide. The Christian women of Ajlun are of the purest Grecian type,—eyes large and lustrous; nose, mouth, and chin classical, and complexion pure olive.—*Osborn's Islam*.

SALAI. TAM. An idol.

SALAJIT. HIND. A mixture of sulphuret of aluminium, sulphate of alumina, and sulphate of iron. Its composition is very uncertain.

SALAM. ARAB. Peace, a Muhammadan salutation, of which there are several kinds, viz.—

Salam Bandugee.

Salam Kurkish.

Salam Tasleem or Tasleemat.

Salam Qadambossee or Zameenbossee.

Salam Sashtung (prop. Hashtang).

Salam Gallay-milna, or embracing.

Us-salam-on-alei-kum-Rahmat-Oolahe, i.e. The peace and mercy of God be with you all.

It is incumbent upon all Muhammadans to return the words Alaik-us-salam to the salutation 'Salam-alaikum' of a true believer, whatever be his rank.

Salam-alaikum, peace be unto you; O alaikus salam, and unto you be peace! Salam bolo, say unto him peace, touching the breast and forehead or lips and forehead; kissing of the lips is not known with men, only the cheeks and shoulders. The right cheek first, then the left, and sometimes the cheeks alone are kissed, but generally the shoulders, also as Genesis xxxiii. 4, xlv. 15, Luke xv. 20. Kissing of the hands is common, as in Matthew xxiii. 7, Mark xii. 38; and rising to receive, as in Job xxix. 8.

One of Lane's useful allies was, he says, a bookseller. Ahmad, a descendant of the prophet, brought him a mustaf (a copy of the Koran), which he wished him to purchase; but he thought it necessary to offer an excuse for his doing so. He remarked that 'by my following or conforming with many of the ceremonies of Muslims, I tacitly confessed myself to be one of them; and it is incumbent on him to regard me in the most favourable light.' 'You give me,' says he, 'the salutation of "Peace be on you!" and it would be impious in me, and directly forbidden in my religion, to pronounce you an unbeliever; for he, whose name be exalted, hath said in the excellent Book, "Say not unto him who greeteth thee with peace, Thou art not a believer" (chap. iv. v. 86).'

The not returning Salam is a sign on the part of the Bedouins that they are out to fight, and not to make friends. In India, after the

first salutation of peace, in conversation you say, 'Is your illustrious disposition well?' and the reply is, 'Al hamd ul illah,' Thanks be to God, or 'Ap ki mihrbani se,' By your favour, and if assenting to a proposition, 'Insha ul illah,' If it please God. Salam - alaikum is the Hebrew Shalom Alechem, Peace be to you, of Luke x. 5. Give my peace to So-and-So, on parting, where one says good-bye, or God be with you. With peace, go in peace, Exodus iv. 18.—*Fraser's Khorasan*, p. 81; *Burton's Mecca*, i. p. 340.

SALAMANDER, the water-salamander of Japan (*Sieboldia maxima*), the largest of existing species of the order of Batrachians. These are dull, sluggish animals, said to be endowed with an extraordinary amount of vitality, and to live to a great age. They feed principally on fishes. Their native home is in the clear mountain streams of the Japanese empire, in the valleys of Nippon, between lat. 34° and 46° N. They reside in rivulets and lakes formed by the rains at a height of from 4000 to 5000 feet above the level of the sea; they grow to about 3 feet in length. A very extraordinary aquatic salamander is found in the lakes of Central Mexico,—the *Siredon Mexicanum* or *Axolotl*,—which in its ordinary state possesses naked external gills.

SALAMI. HIND. Tribute, quit rent; Act vii. of 1863 imposed a quit rent in Bombay Presidency of two annas per rupee on all unadjudicated alienated lands.

SALAMLIK, also Salamji. TURK. The place of assembly in a house where the Muhammadan greeting Salam-alaikum is pronounced.

SAL-AMMONIAC.

Urmeta,	ARAB.	Sadar,	MALAY.
Nung-sha, Nui-sha, CHIN.		Nowasadur, . . .	SANSK.
Tung-sha,		Vayvagarra lunu, SINGH.	
Peh-ting-sha,		Navacharum, . . .	TAM.

Sal-ammoniac is a hydro-chlorate of ammonia. The substance from which this salt was first obtained was the soot of camels' dung, by sublimation, in Egypt, near the temple of Jupiter Ammon, whence its name. Since the establishment of gas-works, it has been chiefly derived from the liquor obtained during the preparation of coal-gas. It is found native at Etna and Vesuvius, in some of the Tuscan lakes, in Persia, Bokhara, in Mongolia and He, from lakes and the vicinity of extinct volcanoes. That in use in China was formerly obtained from Lan-chau-fu and Ning-hia, in Kan-su; but the country of the Tih or Sijung and Turfan formerly yielded it, also the fissures in the volcanic mountain of Peh-ting in Turfan. It is met with in commerce as large cakes of a semicircular form, translucent, and colourless, with a sharp, saline, cool taste, but no smell. It forms a considerable article of trade in Karnal, where the manufacture has been known for ages. It is important as a source of most of the compounds of ammonia, and is used at Lahore for the manufacture of solution of ammonia, for snake-bites, to a considerable extent. It is extensively employed in the arts, in the preparation of aqua regia, in soldering some of the metals, in tinning iron and copper, in the preparation of dyes, liquid ammonia, and in various chemical manufactures.—*O'Sh.*; *Smith's China*; *Powell*.

SALANGORE, in lat. 3° 20' N., and long. 101° 12' E., lies on the south side of the entrance of the river of the same name. This place was

formerly frequented for tin and other articles of trade. Salangore is separated from Perak by a small river called the Runkup, a little north of the Birnam stream. The Bugi occupy the coast. —*Newbold*, ii. p. 27.

SALARIAS ALTICUS. Near the rocks of the Ceylon coast are multitudes of this curious little fish, which possesses the faculty of darting along the surface of the water and running up the wet stones and across the sand with the utmost ease and rapidity. Mr. Gosse had seen a species of *Antennarium* similarly running quickly to and fro on the surface of the great beds of floating seaweed in the Gulf-stream, progressing with the utmost facility by means of its pectorals and ventral fins, quite out of water. By aid of the pectoral and ventral fins and gill-cases, they move across the damp sand, ascend the roots of the mangroves, and climb up the smooth face of the rocks in search of flies, adhering so securely as not to be detached by repeated assaults of the waves. These little creatures are so nimble that it is almost impossible to lay hold of them, as they scramble to the edge and plunge into the sea on the slightest attempt to molest them. They are from three to four inches in length, and of a dark-brown colour, almost undistinguishable from the rocks they frequent.—*Gosse*, p. 122; *Tennent's Ceylon*, i. p. 332, ii. p. 493.

SALAR JUNG, a successful financier, for many years minister of Hyderabad in the Dekhan. He was grandson of Mir Alam, who also had been the minister of that State. His titles from the Nizam were Mukhtar-ul-Mulk, and the Queen-Empress of India made him a Knight Grand Cross of the Star of India. He died A.D. 1883.

SALATAH. ARAB. A favourite Arab dish made as follows:—Take a cucumber, pare, slice, and place it on a plate, sprinkling it over with salt. After a few minutes, season it abundantly with pepper, and put it in a bowl containing some peppercorns, and about a pint of curds. When the dish is properly mixed, a live coal is placed upon the top of the compound to make it bind, as the Arabs say. It is considered a cooling dish, and is esteemed by the abstemious as well as by the toper.—*Burton's Mecca*, i. p. 198.

SALATHI. HIND. A kind of cotton floor-cloth.

SALATURA, the So-lo-tu-lo of the Chinese pilgrim Hiwen Thsang, the birthplace of Panini, the grammarian. Hiwen Thsang says it was 20 li or 3½ miles to the north-west of Ohind. At the village of Lahore, which is exactly four miles to the N.E. of Ohind, General Cunningham in January 1848 procured several Greek and Indo-Scythian coins, from which it may be inferred, with some certainty, that the place is at least as old as the time of Panini himself, or about B.C. 350. He therefore identifies Salatura with Lahore. The loss of the first syllable of the name is accounted for by the change of the palatal sibilant to the aspirate, according to the usage of the people of Western India, by whom the Sindhu river was called Hendhu, and the people on its banks Hindus. Salatura would therefore have become Halatura and Alatur, which might easily have been corrupted to Lahore; or, as General Court writes the name, to Lavar.—*Cunningham's Ancient India*, pp. 5-8.

SALEM, a town of Southern India, in lat.

11° 39' 10" N., and long. 78° 11' 47" E., which gives its name to a revenue district of the Madras Presidency, extending between lat. 11° 2' and 12° 4' N., and long. 77° 33' and 79° 6' E. The town is prettily situated on the Terunani maffar, 900 feet above sea-level, in a long valley, with the Shevaroys Hills towering above, six miles distant. The area of the district is 7183 square miles, and population 1,966,995. The district is hilly, and is largely cultivated by the Malenli race in villages at heights of 2230 to 4150 feet above the sea. The chief ranges are the Shevaroys (highest point 5410), the Kalrayan (about 4000), the Melagiri (4580), the Kollimalai (1663), the Pachamalai (about 4000), the Yelagiri (4441), the Jevadi (3840), the Vathalamalai (about 4000), the Erivani and Valasaimalai (about 3800), the Bodamalai (4019), the Thorpur Hills, the Thalaimalai. Dharmapuri is about 1500 feet, and Krishnagiri from 1500 to 2000 feet above sea-level.

The chief river is the Kaveri (Cauvery), from the left bank of which a large area in Tinichengod and Namakal is irrigated. The Palar, Pennar, and minor streams fertilize the district. The district contains three palniyams or zamindaris, — Sulagiri, Bagalur, and Berikali, all in the Osur taluk. A large portion of the Shevaroys is clothed with middling-sized jungle. Sandalwood is found, and the Jevadi and Yelagiri Hills contain some valuable timber. Magnesite veins occur chiefly at the chalk hills (so miscalled) near the foot of the Shevaroys. Potstone is found in several places. Magnetic iron-ore occurs in practically inexhaustible quantities. Corundum and chrome iron-ore are also obtainable. The Pennar and some other rivers yield gold. Hindu pilgrims crowd to the sacred springs on the Tirthamalai, to Hanumatirtham on the Pennar, to the pagoda at Osur, to the Adipadinettu at the falls of the Kaveri (Cauvery), and to the festivals at Dharmapuri, Mecheri, and other places. The chief shrines where the Malayalis worship are on the Shevaroys and the Chitterimalai Hills near Harur. — *Imp. Gaz.*

SALEMOTE, a silk scarf of Singapore, sometimes embroidered with gold thread. The Salendong and Salemote, with and without gold thread and silk, are in use throughout the Archipelago from Sumatra to Timor. Timor is the most remote of the eastern islands in which textile fabrics are manufactured, the countries beyond producing no other cloths than those of bark beaten out. The texture of the cotton cloths manufactured in Timor and the adjacent islands closely corresponds with those of the Batta of Sumatra and the Dyak of Borneo. The manufacture is evidently of great antiquity, and must have been introduced before that of Java of the present time, which is of Hindu origin. Cotton and dyes are grown in Timor. The silk threads introduced are made from raw silk imported from China and the continent of Asia. — *Cat. Ex.*, 1862.

SALENDONG, a silk scarf of Singapore. It is a woman's head-dress thrown over the head and shoulders.

SALEP. Salep misri, ARAB., HIND., PERS. Oriental salep is probably obtained from *Eulophia vera* and *E. campestris*. European salep is obtained from *Orchis mascula*, W.; *O. latifolia*, O. morio, W.; *O. militaris*, W.; *O. papilionacea*, W.; *O. coriophora*, Pers.; and *O. undulatifolia*;

and Tacca salep from *Tacca pinnatifida*. The tubers of the orchis are compressed, ovoid, rather transparent, and composed chiefly of bassorine, soluble gum, and a large proportion of amylaceous matter or starch. One drachm of the powdered root requires 60 drachms of boiling water to effect its solution; two drachms afford a sufficient meal for an invalid. Good salep carefully prepared is one of the best articles of diet a convalescent can use. In India the salep of Kashmir from *E. vera* is reckoned the best. It is also imported from the Persian Gulf. From the peculiar shape of the tubers, it has gained immense, but most unmerited, celebrity as an aphrodisiac. The same circumstance has given the orchis plant its name both in the Greek and Arabic language. Native practitioners prescribe it in conjunction with mastic and some other ingredients, in such cases as require tonics. In England it is supposed the chocolate-makers grind it up with cocoa; by Europeans it is frequently used for children as an easily digestible form of farinaceous food, consisting mostly of bassorine. Residents of Simla and Ootacamund (in the Neilgherries) are in the habit of collecting the tubers of several orchids for family consumption. Tacca plant abounds in certain parts of Arakan, and the Mug race prepare the farina for export to the China market. After removing the peel, the root is grated on a fish-skin, and the pulp having been strained through a coarse cloth, is washed three or four times in water, and then dried in the sun. Mr. Nuttall (American Journal of Pharmacy, ix. p. 305) says the Otaheite salep is obtained from a new species of Tacca, which he names the *T. oceanica*.

SALIT-I-SHAITAN. PERS. *Conium maculatum*; *Cicuta virosa*.

SALI, in Berar, silk-weavers of saree and choli.

SALIBAH, an Arab race in the northern part of the Peninsula and southern parts of Mesopotamia, who take their name from Salib, a cross. Lady Anne Blunt describes them (ii. p. 110) as short of stature, well made, engaged in hunting, and clothed in gazelle skins. They have donkeys and goats, but no camels or horses; they beg from the Arabs; they eat hedgehogs. Their women are beautiful, but no Bedonin, however poor, would marry one of them. She supposes them to be of Indian origin. Lieut.-Col. Pelly saw some men of this tribe at Koweit and elsewhere. They are said to worship the cross (Salib), and perform many ceremonies, more nearly allied to the corruptions of Asian Christianity than to Islamism. Men and women dance round a sort of May-pole. They wear a carter's smock, coming down to the feet, and which, like a boy's pinafore, ties behind. They possess a beautiful breed of donkeys, which they ride, without girths, upon a saddle made like a cottage wooden chair bottom. They squat on this seat, and twist their legs over a pommel peak, crossing them over the donkey's neck. They seem to prize their saddles as an Arab does his mare, and would not sell them. They appear a merry, quick-witted, disreputable lot, with retroussé noses and Irish features. They stood, with eyes twinkling (legs and hands always on the fidget), and pelted him with the peelings of their fun. This strange people live on the flesh of the gazelle, which they shoot, and dress

themselves in its skin. They wander about amongst, and are friends with, all the Arab tribes, and yet remain entirely distinct. They adopt some of the forms of the Muhammadan faith, but at feasts and marriages they raise the cross as a sign of rejoicing. They are the best guides for the desert, knowing where water is to be found, and the position of the various tribes. Those whom he saw seemed much more intelligent than the Arabs, and they have more of a European than an Asiatic cast of countenance.

SALICACEÆ. *Lindl.* The willow tribe of plants, comprising species of the genus *Salix*. Salicine is a crystallizable bitter principle, obtained from the leaves and young bark of the poplar, willow, aspen, etc.; used in rheumatism. It forms small white silky needles, and in some respects resembles the vegeta-alkalies, cinchona and quina, having febrifuge properties; but it differs from them in containing no nitrogen, and not forming salts with acids.—*Tomlinson*.

SALICORNIA ARABICA. *Wight.*

Ushman, . . . ARAB. | Chook, . . . HIND.
Chubuck-sowyeh, . . . HIND. | Ghasul, . . . PERS.

Grows in the Sunderbuns and on the Coromandel coast, and barilla is made from it.

Salicornia brachiata, *Roeb.*; Koiloo, Koyala, TEL., a perennial plant, very abundant in the delta of the Ganges and on the Coromandel coast, on low wet grounds overflowed by the tides. It yields a barilla for soap and glass.—*W. Ic.*; *Roeb.*

Salicornia Indica, *Roeb.*, *W. Ic.*

Jodu palung, . . . BENG. | Koyya pippali, . . . TEL.
Jidu palung, . . . " |

A very common plant on such salt grounds as are inundated by the spring tides on the Malabar coast; it is burned for barilla. The value of barilla has been much depreciated by the progress of chemical science in Europe, where the purest alkali is manufactured by decomposing common salt by sulphuric acid, and at the low rate of £10 the ton of 30 maunds. *Salicornia*, *Salsola*, and *Sueda* genera cover every patch of saline land in the Panjab.—*Eng. Cyc.*; *Roeb.*; *W. Ic.*; *Voigt*.

SALIK. ARAB. A traveller, a class of devotees, a pilgrim on the Tarikat or path of salvation of the Muhammadans.

SALINE SOILS occur in many parts of British India, in Hindustan, in the Dekhan, and in the Ceded Districts. In Northern India they are known as reh (*q.v.*), and salts of soda are largely manufactured from them.

Impure carbonates of soda, known as rasi and saji, are manufactured from reh soil. Rasi is obtained by lixiviating the reh and concentrating the brine by solar heat. Saji is the fused solid obtained by mixing reh with water, and exposing it in a furnace to artificial heat. The products from both processes are crude carbonate of soda, and these are largely used in the manufacture of soap and tobacco.

Reh soil tracts have intermixed patches of salt soil and saltpetre soils, and if these soils are intermixed with the reh in the manufacture of saji or rasi there will be no formation of salt. Reh soil, however, where genuine or pure, differs from the other soils containing sulphate of soda and saltpetre, as it contains no common salt.

An ordinary factory worked by five or six men will, in one season, produce over 250 British man or maund of crude carbonate of soda.

Glauber's salt is known in N. India as Khari, also Khari-nun. Its manufacture is by filtration and solar heat. The machinery requisite consists of a filter (channa), reservoirs (hauz or hauda), a shallow masonry pan (patta) 14 yards by 12 yards and from 6 to 6 inches deep, made of consolidated kankar, with a thick surface coating of lime-plaster. The patta or masonry pan is subdivided into four or five compartments (kyari) on different levels to facilitate transfer of the fluid. These are constructed on a tract of khari soil, where water is conveniently at hand, and in the early part of March work is commenced. The soil is gathered and taken to the factory, passed through the filter, and the compartments filled with the brine, and exposed to the action of the sun. On the second or third day, the contents of one compartment are run off into the others; one after another is thus emptied, until all the concentrated brine is collected in one compartment for the Glauber's salt to precipitate. The empty compartments are filled with fresh brine.

In the soil there is always a percentage of common salt, and during the evaporation the sulphate of soda first precipitates; secondly, the chloride of sodium. It is thus an easy matter to remove the upper layer of salt from the glauber beneath, and this is usually done.—*Carmegh*.

SALINE SPRINGS are found in Sind and in the higher portion of the Panjab; they usually contain common salt with some sulphate of soda and small quantities of other salts, when they are not simply brine. Traces of iodine are found near Kangra. Throughout Rajputana and in some parts of the Panjab, the wells are abundantly impregnated with soda. Some of the springs in Kannaon contain mineral impregnations, but scarcely to an extent to be considered saline. Scarcely any strong saline springs are thermal. The few thermal salines are chiefly calcareous, and one or two silicious. There are many saline springs in Turkish Arabia and in Persia; also springs in Salt Range, Peshawur; a hot fountain in Kattyawar, with saline and sulphur springs within high-water mark; sulphurous well near Sonmath; saline springs in the Konkani; saline and sulphurous springs in Lukee pass; sulphuretted hot springs at Badrachellum on the Godavery; hot springs at Raik and Urjunah, and at Byorah in the Dekhan.—*Jour. B. A. S.* iii, 1856. See Reh; Salt; Saltpetre.

SALISBURIA ADIANTIFOLIA. *Sm.*

Gingko biloba, *Lin.* | Pa-hwo, . . . CHIN.
Yin-ko (fruit), . . . CHIN. | Gingko, Jinko, . . . JAP.

A tree of Japan, much cultivated in China, and found in many gardens in Europe. In congenial climates it attains the size of the walnut. Its leaves are wedge or fan shaped, deeply bilobed, and finely striated with veins, having some resemblance to the leaves of some species of *Adiantum*, whence it is commonly called maiden-hair tree in England. The pulp of the fruit is austere tasted, but the large kernel is sweet, with some degree of bitterness when raw, but agreeable as a dessert when roasted like chestnuts. They are much eaten in China. The Chinese are fond of dwarfing it, and it is often seen in that state in their gardens. Its fruit is sold in the markets in all Chinese towns by the name of Pa-hwo, and is not unlike dried almonds, only whiter, fuller, and more round. It is rarely eaten by Europeans.

—*Eng. Cyc.*; *Fortune's Wanderings*; *Roxburgh*; *Smith*.

SALITAH. HIND. A canvas sheet used to contain the articles composing a camel's load. In cold weather it is converted into a blanket.—*Burton's Scinde*, ii. p. 43.

SALIVAHANA was the son of a potter. He headed a successful popular movement, and became the chief of a powerful monarchy in Maharashtra. He ruled at Munji-Paithan. The ruler whom he overthrew is said to have been Vikramaditya, king of Malwa, but there are 135 years between the era of the historical Vikramaditya and that of Salivahana. He gave origin to a new era, which is still current in India. The era reckons from A.D. 78, the supposed date of his death. It numbers the solar years, as the era of Vikramaditya numbers the luni-solar years. Tod describes Salivahana as of the Takshak race, and states that the Salivahana era set aside that of the Tuar in the Dekhan. Salivahana had 300 wives, from whom the Beis Rajputs are descended.—*As. Res.* p. 121; *Elphinstone*, p. 224.

SALIX, the willow genus of plants. There are about 60 species in Eastern and Southern Asia. The earliest mention of the willow tree is in the Pentateuch, where the Israelites were directed at the institution of the feast of tabernacles to 'take the boughs of goodly trees, branches of palm trees, and the boughs of thick trees, and willows of the brook, and to rejoice before the Lord their God seven days.' At a later period, the Psalmist describes the captives as lamenting—'By the rivers of Babylon, there we sat down; yea, we wept, when we remembered Zion. We hanged our harps upon the willows in the midst thereof. For there they that carried us away captive required of us a song; and they that wasted us required of us mirth.' Willows are valuable for economic purposes. *S. Babylonica* and *S. Ægyptiaca* occur in gardens in Upper India. *S. Lindleyana*, or dwarf willow, occurs at 12,000 to 13,000 feet on the Himalaya; *S. chita* and *S. rotundifolia* in Kanawar. In Tibet, the whole plough except the point, which is iron, is generally made of willow. In Afghanistan willow wood is generally used for building, as insects do not attack it. On the Chenab, pails, etc., are rudely cut from single blocks of the willow; and, according to Moorcroft, combs to remove the fine goat's hair from the animal's back are made of this in Ladakh. The wood in Tibet and Spiti is employed for boarding. The small twigs are used for basket-work, and the leaves are highly valued in winter as food for sheep. One of the substances known as manna, the bed-khiht, used as a laxative, is said to be a product on a species of willow of Khorasan and Turkestan. *S. flabellaris*, *Ands.*, *S. hastata*, *L.*, and *S. oxycarpa*, *Ands.*, are found at various elevations in the Panjab Himalaya and Ladakh from 6000 to 15,000 feet; and the leaves, etc., of several are used as fodder. In Kashmir the willow is used largely for basket-making; in Tibet many of the houses are made of willow wattle and daub. Twig bridges of willow are mentioned in Spiti, Zaskar, and Ladakh, where Parrotia is not found. In Kashmir, willow twigs are employed as tooth-sticks. There also, and still more on the Chenab and in Ladakh, the trees are severely and systematically lopped, the young shoots and bark of the larger removed by hand,

being used as fodder.—*Cleghorn*; *Royle*; *O'Sh.*; *Hooker, Him. Jour.*; *Stewart*; *Honig*.

Salix acmophylla, *Boiss.*

Biau, . . . HIND., PANJ. | Budha, . . . SINDI.
Bedh, . . . PUSHTU.

A moderate-sized tree of Persia, Afghanistan, N.W. Himalaya, and Upper Sind. Wood tough and elastic, used in small carpentry; weight, 37 lbs. to the cubic foot. Leaves as fodder.—*J. A. Murray*.

Salix Ægyptiaca, *Linn.*

Bed-i-musk, . . . PERS. | Khagawla, . . . PUSHTU.

Cultivated at Lahore for the distillation, from the palm, of an aromatic water, which is much used in the hot season.

Salix alba, *L.*

Bushan, . . . CHENAB. | Kalchang, . . . LADAKH.
Yur, Chung, . . . " | Walchang, . . . "
Chaugma, CHEN., LADKH. | Shai, Madanu, . . . PANJ.
Bia, . . . JHELMU. | Kharwal, . . . TRANS-INDUS.
Vwir, . . . KACHAN.

Dr. J. L. Stewart says that there is considerable doubt as to this species, but it or an allied one appears to be common in Kashmir, Pangl, Lahoul, and Ladakh, etc., occasionally in the last from 5000 up to 14,500 feet, and it seems to occur in Trans-Indus; height to 80 feet. It reaches 8 and 9 feet in girth when well protected. Moorcroft mentions one of 16 feet, but the largest trees are very often hollow. It is planted round almost every village, and along the water-courses of the Chenab. The slender branches and leaves serve as food for sheep and goats. Its timber is the lightest of all woods, and is used for bungs.

Salix Babylonica, *L.*, Weeping willow.

Bada, Baint'h, . . . BEAS. | Biss, Giur, . . . KANGRA.
Baida, . . . " | Chung, . . . PANJ.
Mo-ma-kha, . . . BURM. | Bed-i-majnun, . . . PERS.
Bidai, . . . CHENAB. | Laila, Kutira, . . . "
Pani-Jumma, . . . HIND. | Willa, Khar-Willa, PUSHTU.
Sail-i-majnun, . . . " | Wala, . . . TRANS-INDUS.

A small tree of Greece, Asia Minor, common on the sides of all the rivers and canals, as well as in the gardens of the Chinese; is cultivated in gardens in Northern India, throughout the Panjab, and to 5500 feet in the hills and Kashmir. Near Chumba Dr. Stewart saw trees of 12 feet girth. It grows rapidly, and is easily raised in moist places by cuttings, up to stakes of considerable size, which are often planted to consolidate the banks of watercuts, etc. Its branches and twigs are largely used for baskets, wattles, weirs, etc. Good cricket bats have been made from it. The leaves are reckoned tonic; contain a neutral principle called salicine, and tannic acid; some consider it nearly equal to cinchona; it is also said to be anthelmintic. The small twigs are used for kiltas, baskets, and rope bridges.

Salix caprea, *Linn.*

Bed-i-mushk, . . . PERS. | Khagawala, . . . PUSHTU.
Khilaf-i-balki, . . . "

Cultivated at several places in the Panjab plains. The large yellowish catkins of flowers appear in February, and are collected and sold at about 6 or 8 rupees per maund to perfumers, who distil a scented water from them. This, mixed with water, is drunk as a sherbet, which has a rather pleasant though somewhat medicinal taste.

Salix tetrasperma, *Roxb.*

Bheh, . . . ASSAM. | Bhainas, Baiahi, . . . HIND.
Pani-juma, . . . BENG. | Bhumtas, . . . JALLANDHAR.
Mo-ma-kha, . . . BURM. | Gud-byna, . . . KAMAON.
Bed, Laila, Safeda, HIND. | Walloonj, . . . MAHR.

In the Panjab this is planted in the plains, but is occasionally seen in the outer hills to 4000 feet, and to 5000 or 6000 feet on the banks of the hill streams of Kamaon. It is common at Rangamally, in the Terai, in the Kheeree pass, and along the foot of the mountains; is very common throughout the Madras Presidency from the sea-level up to 7000 feet; is absent from Ceylon, but extends to Burma and Java. Its wood is small but tough and elastic, but is not used in Burma or India. A cubic foot weighs 37 lbs. It is readily raised by cuttings, and grows rapidly to a considerable size. Dr. Stewart had seen trees of 6 feet girth. The names of all these plants, as laila and majnun, are alluding to the well-known eastern love story.

SALKH. The custom of the Arabs, called by them As-Salkh, i.e. scarring, appears to be a mode of establishing their manhood and courage. The father and friends go out into the open air, where they surround the lad, who sits down.

SALLY MAN, *Velilla nutica*, a hydrostatic acalepha of a very beautiful and interesting structure. Also *V. limbosa* and other species.

SALMALIA MALABARICA. *Sch. and E.*
Bombax Malabaricum, D.C.; B. heptaphyllum, Roxb.
 Rakto shimul, . . . BENG. Mul elavu, . . . MALEAL.
 Lai, Lot-pan, . . . BURM. Salmali, Shalmali, SANSK.
 Saur, . . . DUKH. Katu-inbul-gas, SINGH.
 Red cotton tree, . . . ENG. Elavam, Pula maram, TAM.
 Rakta-sambal, . . . HIND. Buraga, . . . TEL.

This is a large tree, with flowers of a beautiful red colour, common in the warmer parts of Ceylon, and from one end of India to the other, particularly along the foot of the Himalaya mountains, and is one of the most abundant of the forest trees of Tenasserim. The tree grows rapidly, and is occasionally found 30 to 40 feet in girth. The tree is sometimes called *S. pentaphyllum*, when the lobes of the leaves are 5 instead of 7, but there is no difference in species, for the trees frequently carry both kinds of leaf. When very large, their appearance is magnificent; the thick stem spreads out towards the base at intervals into buttress-like projections, strengthening and supporting the main stem; and in the spring season the tree is covered with huge magnolia-shaped scarlet blossoms. The silky down that envelops the seed is used to stuff mattresses and pillows, and has occasionally been made into cloth; the young trees and branches have short flat thorns. The young flower-buds are cooked and eaten in some places; its white, soft, light, brittle wood, though not strong, is used for boxes, scabbards, doors, and water-conduits; white ants readily attack the wood. Leaves used as fodder; its gum is the mooche-ras of the bazar, and the roots of young trees produce the safed musli, which is used to make a cooling beverage.

SALMA SITARA, of gold and silver, a manufacture of Bengal.

SALMON.

Lax,	. . .	DAN., SW.	Salamone,	. . .	IT.
Lachs,	. . .	DUT., GER.	Salmno,	. . .	POB.
Salmon,	. . .	FR., SCOTCH.	Semgha,	. . .	RUS.
Sermone,	. . .	. . .	. . .	. . .	. . .

No trout or salmon inhabits any of the rivers that debouche into the Indian Ocean (the so-called Himalayan trout is a species of carp). Salmonidæ are, however, found in the Oxus, and in all the rivers of Central Asia that flow north and west, and the *Salmo orientalis*, *M'Cle-*

land (Calcutta, Jour. Nat. Hist. iii. p. 283), was caught by Griffith (Journals, p. 403) in the Bamian river, which flows into the Oxus, and whose waters are separated by one narrow mountain ridge from those of the feeders of the Indus.

S. orientalis, *Pallas*, according to Adams, p. 187, occurs in the Gulf of Pe-chi-li. The nature of the tropical ocean into which all the Himalaya rivers debouche is no doubt the proximate cause of the absence of Salmonidæ. Sir John Richardson (Fishes of China Seas, etc., in Brit. Ass. Rep., etc.) says that no species of the order has been found in the Chinese and Eastern Asiatic seas.

SALON, Manchu tribes on the Upper Saghalin.

SALONES are a tribe of sea-gypsies, living in the dry weather in their boats, and during the monsoon seeking a temporary shelter in huts built on the lee side of the islands of the Mergui Archipelago. They are said to be divided into several clans, which have each a recognised right to fishing-grounds within certain limits. Formerly they were much exposed to the predatory attacks of Malay pirates, but these troubles have almost ceased, and during the fine weather Salones may be seen in their peculiar wicker-work boats at Mergui, whither they come to dispose of their fish and beche-de-mer. In personal appearance they are between the Malays and the Burmese. Their language has affinities with the tongue of the former, and belongs to the Malay-Polynesian group of agglutinating languages. 894 were counted in the Mergui district living in various islands of the Archipelago.

SALOO, a cloth of Banda; it is dyed with alkanet root, with a mixture of castor-oil, in the proportion of one pila to every piece of cloth, each piece of cloth being eight yards. Besides castor-oil, Russee, a kind of earth, is also mixed, and goats' dung and alum. The cloth is first rubbed for ten days in the castor-oil, Russee, and goat's dung, and then dried in the sun. After ten days it is well washed and dried, and then steeped in the oil for five days; afterwards washed and dried in the sun; and after a third application of soap and water, the cloth is ready for sale. The cost of dyeing different kinds of cloth is as follows:—Nynsook cloth sells at 1 anna per yard; mul-mul at $\frac{3}{4}$ anna per yard; and that used for the pagri or turband at $\frac{1}{2}$ anna per yard.

It is not easy to ascertain the extent and value of the quantity of saloo cloth annually manufactured. It is exported to other parts of India, and its use is general, and not limited to particular castes. The wholesale market value is about 1 rupee 6 annas 6 pice per piece, according to the quality of the cloth dyed.—*Cat. Cat. Ec.*, 1862.

SALOTAR. A work is extant on veterinary medicine; it is said to be by Salotar, who is stated to have been the tutor of Susruta. It was translated from Sanskrit in the year 1831. But Professor Max Müller mentions that Salotar is not known as the author of such a work, and he adds that Salotariya is a name of Panini, and that the teacher of Susruta is said to have been Devodasa. Salotar, also Salastri and Salotri, HIND., is a veterinary surgeon.—*Müller's Lectures*, p. 142.

SALSETTE is supposed to be derived from She-aste, meaning, in Mahratia, eighty-six, it having formerly contained, it is said, that number of villages. Mr. Burgess says (p. 349) it is called Shatshushthi. It is 150 square miles, and much

SALSOLA.

the largest of the many islands near the island of Bombay, and the islets of Dravee and Versova are just off the shore of Salsette. Salsette and Bassein were taken by the British on the 28th December 1774, and Salsette, Bassein, and the revenues of Broach were ceded by Raghoba on the 6th March 1775. Its northern point is in lat. $19^{\circ} 7' 40''$ N., and long. $72^{\circ} 47'$ E. It is connected with Bombay by a causeway and bridge at Sion, 2 miles E. of Mahim. Between Mahim and Bandora are a fine causeway and bridge, constructed at the joint expense of Sir Jamsetjee Jejeebhoy and Government. It is beautifully diversified and well peopled. It has many ancient rock-temples at Kanheri, Marol, Magathana, Mandapeswar, and Jogee, and at Kanheri, about one hundred, mostly small, excavated in a large, solitary, bare hill, some of them covered with sculpture of the Mahayana type. The chaitya at Kanheri has been pronounced by Dr. Fergusson to be merely a copy of the Karli cave. It belongs to the beginning of the 5th century, but nine of its viharas seem to be of earlier date.—*Burgess*, p. 349.

SALSOLA, Kotee-lance and Kharu lance, SIND. A genus of plants belonging to the natural order Chenopodiaceæ, named from Salsus, salt, in consequence of many of the species, *S. kali*, *S. sativa*, *S. soda*, and others, yielding kelp and barilla. The species are chiefly found on the sea-shore in temperate climates, but also in hot parts of the world where the soil is saline, or where there is salt water in the vicinity. Various species of Salsolaceæ abound in the more saline dry parts of the doabs of the Western Panjab. The *Salsola kali* of Europe and the colder parts of Asia is mostly found on sandy shores or arid deserts; an annual bushy plant, with stiff, thorny, channelled leaves. The dried plant, when reduced to ashes, yields 25 to 30 per cent. of carbonate of soda; used in India in soap-making, calico-dyeing, washing, etc.

SALSOLA INDICA, *Willd.* Oomari-keeray, TAM.; Elia-kura, TEL. This, with species of *Salicorniæ*, and other of the Chenopodiaceæ, are natives of the salt marshes and grounds near the sea, flowering the greater part of the year. The green leaves are universally eaten by all classes of natives who live near the sea, and are reckoned very wholesome. The leaves of this plant alone saved many thousand lives during the famine in India of 1791-92-93. It is a small procumbent weed, with linear-shaped leaves, is used as greens, and is a very pleasant vegetable. This, being naturally salt, has given rise to the Teling saying, 'The carping husband (finding fault without cause) says to his wife, There is no salt in the Inkura.' In Malabar, barilla is made from it.

SALSOLA NUDIFLORA, *Willd.* Ravakada, Reyyl-kada, TEL., is a native of salt barren lands near the sea, and flowers during the greater part of the year. The stems are perennial, many spreading close upon the ground, and often striking root, ramous extremities of the branches ascending. The plant is only used for fuel, but Roxburgh believed it would yield excellent soda.—*Roxb.*; *O'Sh.*; *Voigt*; *Jaffrey*.

SALT, Common Salt.

Malh, ARAB. | Shih-yen, CHIN.
Uyah, BALI, JAV. | Kwan-ming-yen, . . .
Tsa, BURM. | Jung-yen, Tsing-yen, ..

SALT.

Zout,	DUT.	Meet, Mit, . . .	MAHR.
Muriate of soda, . .	ENG.	Gharum, Garam, MALAY.?	
Chloride of sodium, .		Nun, Noon, . . .	PERS.
Sel,	FR.	Sol,	RUS.
Salz,	GER.	Lavana,	SANSK.
Namak,	HIND.	Lunu,	SINGH.
Sale,	IT.	Uppu,	TAM. TEL.
Sal,	LAT., PORT., SP.	Tuz,	TURK.

Four kinds are distinguished,—rock-salt, sea-salt, lake-salt, and earth-salt. When found native in immense masses, which only require to be dug and reduced to powder, it is termed rock-salt; when obtained by the evaporation of sea water, common salt or sea-salt; and when manufactured from the saline soil, it is known as earth-salt. Sea-salt is extensively manufactured on account of the Indian Government at many places along the coast. The process is not everywhere exactly the same, but generally, the sea water being raised by means of levers, called pakottas, is run into shallow beds or pans, and evaporated, additional water being added as the evaporation goes on. The salt is raked to the side, and conveyed to platforms or raised places, where it is heaped in quantities of 10 or more garce. In some places a proportion of the salt water is obtained from wells dug near salt creeks; in others the salt water is dammed up in the mouths of rivers, where it is partially evaporated for some time before being run into the crystallizing pans. In some parts of Ceylon, of the adjoining coast of the Peninsula of India, where the beach is long and shelving, also on the shores of the Rumm of Cutch, salt is formed naturally on the sea-shore, by the sun's rays evaporating the tidal waves.

All round the coasts of Ceylon and the Peninsula of India, but chiefly on the east coast, salt is locally made in great quantities, and at a cost defying all foreign competition. For this reason, in British India, Ceylon, and Netherland India, salt manufacture is a monopoly of the respective governments in India, and yields a large part of the revenue.

In Bengal, the monopoly of salt in one form or other dates at least from the establishment of the Board of Trade there in 1765. The strict monopoly of salt commenced in 1780, under a system of agencies. The system introduced in 1780 continued in force with occasional modifications till 1862, when the several salt agencies were gradually abolished, leaving the supply of salt, whether by importation or excise manufacture, to private enterprise. Since then, for Bengal proper, the supply of the condiment has been obtained chiefly by importation, but in part by private manufacture under a system of excise.

The Indian Salt Act xii. of 1882 was passed by the Governor-General on the 10th March. It repealed the Inland Customs Act viii. of 1875, and the Salt Act xviii. of 1877; also section 9 of the Bengal Salt Act vii. of 1864, clauses *b* and *c* of section 39 of the Burma Land Act ii. of 1876, and sections 36 and 37 of the Ajmir Laws Regulation iii. of 1877.

Act xii. of 1882 embraced the N.W. Provinces, Panjab, Oudh, Ajmir, Mairwar, Sind, the Patna Division, and Central India, and fixed Rs. 50 as the fee for a licence to manufacture and refine saltpetre and to separate and purify salt; also Rs. 10 for a licence to manufacture sulphate of soda (Khari-nun) by solar heat in evaporating

pans; and Rs. 2 each for a saltpetre licence, for making Khari-nun by artificial heat, and for the manufacture of other saline substances; and by chapter iii. power was given to impose a duty not exceeding three rupees per maund of 82½ lbs. avoirdupois on salt manufactured in or imported by land into any part of British India, and with power to fix the minimum price at which salt, excavated, manufactured, or sold by or on behalf of the Government of India, shall be sold.

Further, by chapter vi., the excise duty payable under the Madras Act vi. of 1871 was not to be demanded until the salt was to be removed from the place of storage.

The duty was fixed in 1878 at Rs. 2.8 per maund, in most parts of British India; in the Lower Provinces of Bengal, Rs. 3.2 per maund; and in the Upper Provinces, Rs. 2.12 per maund.

In British India, in the 10 years 1871-72 to 1880-81, the salt revenue collected averaged £6,484,268, and the charges of collection £453,917.

Collected.	Charges.	Collected.	Charges.
1872, £5,966,595	£477,368	1877, £6,304,658	£483,430
1873, 6,165,630	476,680	1878, 6,460,082	539,858
1874, 6,150,662	478,245	1879, 6,941,120	404,743
1875, 6,227,301	462,168	1880, 7,266,413	340,687
1876, 6,244,415	507,410	1881, 7,115,988	363,537

Salt imported into British India—

1879-80, . . .	352,238 tons,	Rs. 76,25,321
1880-81, . . .	373,376 „	„ 66,55,174
1881-82, . . .	357,227 „	„ 56,90,671

In *Ceylon* the manufacture of salt is conducted by solar evaporation and by artificial heat. The best article is formed naturally in the Southern and in parts of the Northern Provinces. In the Northern Provinces the evaporation is chiefly from salt pans. Between the years 1865 and 1870 the production ranged from 121,146 cwt., costing £11,000, and 791,503 cwt., costing £20,502, the revenue averaging £71,381.

In *Netherland India* the manufacture is carried on by the Government on its own account, by solar evaporation from salt pans, of which there are several in process, and their contents are drawn off from one to another. The salt is obtained in 30 to 40 days. The monopoly is in force through nearly the whole of Java and Madura, throughout the west coast of Sumatra, Bencoolen, Lampongs, Palembang, Banca, the east and west coast of Borneo. But in Riouw, Billeton, Celebes, Amboyna, Ternate, Banda, and Timor, the Netherland India Government does not interfere with the supply. In 1871, the quantity sold at the places where the monopoly exists, was 32,599 coyangs.

On the *Continent of India*, the only lake from which salt is obtained is the Sambhar Lake of Rajputana. Its waters are highly saline, and its efflorescing salt is greatly prized, as also is that of the Kunn of Cutch.

Salt beds in *Sind* are in the vicinity of the Allah Band. In 1847, Lieutenant Burke estimated the quantity in the Goongra at 1,500,000,000 tons.

In *Orissa*, two kinds of salt are made, one called Pungah, by evaporating highly concentrated brine by artificial heat. The other, Kurkutch, is preferred; it is obtained by the solar heat evaporating sea water, is cheaper, and it is the only kind allowed to be used in the temples.

Salt is manufactured on the west bank of the *Hoogly* river, above Kedgerce, and on either side of the rivers Huldi, Tengree-Khally, and Roy-

Khally, and in the numerous canals and creeks which are fed by them, to the extent of 9 lakhs of maunds, employing about 17,000 people.

Salt wells are sunk along both banks of the *Purna* river. When the depth of 90 feet is attained, the water suddenly gushes up to a height of 15 or 20 feet, like the jet from an artesian well.

The *Great Salt Range* in the N.W. frontier of India runs through the Jhelum and Shahpur districts, and its vast deposits of rock-salt are practically inexhaustible. The principal beds occur in the southern slopes of the range, and are from 150 to 200 feet in thickness. At Kalabagh the salt is quarried in open mines, but in other places the mines are led to by galleries, as in the Mayo mine at Kheora, the Sardi mines in the Jhelum district, and the Warcha mine in Shahpur.

Salt of the *Kohat* district is obtained near the surface, from five quarries in the chain of hills running from the Indus towards Bahadur Khel. It is of a black or dark-green colour. Nowhere else in the world are there salt deposits of such vast extent and purity.

To the east of Lahore, at Bureng and Gomi, near Mandi, are two mines, and at Kotri rock-salt was discovered.

During the progress of Mr. Wynne's survey, three mines were being worked on the eastern side of the Indus, and the open quarries of Kalabagh on the other side. The largest mines are the Mayo mines at Kheora. In these, vast but dangerous chambers had been opened up by the old Sikh workmen, who were so careless in their method of excavating, that two heavy pillars supporting the roof of one chamber were left resting on a thick crust of salt spanning another large chamber below. This eventually gave way in 1870, and the ruins of the fallen mass were so great that quite a crater was formed on the hill in which the mines are situated. Since the advent of British rule a better system of working has been introduced; and instead of gaining entrance to the mines by a slippery incline, one can now drive in upon a tramway through a spacious passage, in which due provision has been made for ventilation. The old chambers still remain to be contrasted with the new ones, and when illuminated with coloured or magnesium lights the effect of the brilliant crystal facets and stalactite masses in them is very picturesque. Gunpowder is now used in these mines for blasting purposes. Dr. Warth estimated that 300 lakhs of maunds, or more than a million tons, have been removed from the Mayo mines, but they show as yet no signs of becoming exhausted.

The Sardi and Warcha mines are of less importance. The Kalabagh or Trans-Indus quarries are all open workings in a thick group of salt beds, ranging from 4 feet to 20 feet in thickness. They run along the right side of the Lun or Gossai Nallah, the salt extending from the base of the hill as high up as 200 feet. The outcrop runs for some two miles up the glen, and there are 14 working-places or quarries. The value of the receipts from the four Salt Range mines for the four years ending 1870-71, averaged £388,144 annually. Where the workings have been most carefully surveyed, the salt has been found in zones, consisting of several distinct beds, within distances of about 600 feet, 200 feet, and less of

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the top of the marl and gypsum. There seems to be a larger development of so-called bad salt in the western than in the eastern part of the district, but it may be mentioned that this bad salt would in other districts be extremely valuable. A very wasteful system of carriage had prevailed. The salt was reduced to rough spherical lumps to prevent the corners from being rubbed off during its transport in open nettings or hair-cloth bags, and an enormous quantity of it was thus wasted.

Earth-salt is produced from tracts of saline soil. These occur in many parts of British India, and are called *namaksar*, *dawanah*, *nonarah*, and *aihri*.

In N. India the saline tracts are distinguished into *Sichan*, from the verb *Sichna*, to moisten or bedew, and *Goran*, from *Gorna*, to dig or scrape.

In the *Sichan* tracts, the soil has no saline particles, but the saline water from wells being spread over it, the action of the sun causes the saline particles to effloresce, and from this the salt is manufactured. If these *Sichan* soils be left for a year or two, they again become fit for cultivation.

The soil of the *Goran* tract is wholly saline and unculturable, and except after heavy rain, edible salt can be made from them at any season by solar or artificial heat. Water poured on the saline earth passes through, carrying with it the saline particles in solution, which is afterwards evaporated by the sun's rays or by artificial heat. When the salt soil is strong, about five seers of dry earth will yield from 8 to 10 chittak of salt.

Salt occurs in several parts of *Mysore* in considerable abundance, usually on the red soil, and it was manufactured in almost every village on the south side of Chittuldroog. It effloresces on the surface in the dry season, and the people sweep it together, and, after dissolving it, crystallize it.

In *Asia Minor*, between lat. 37° and 39° N., and long. 30° and 34° E., are a number of valleys or depressions filled with saline waters, having no outlets, the chief being *Tuz Gol*, *Murad Su Gol*, *Ak Shahr Gol*, *Bey Shahr*, *Lake Chardak*, and *Lake Van*, less saline, is 240 miles in circumference. *El Sahakhah*, near *Aleppo*, is a salt lake. In *Palestine* is the *Dead Sea*, or *Bahr-ul-Lut*. It is 1300 feet below the level of the *Mediterranean*, and its waters contain 12·11 per cent. of chloride of sodium, 7·8 of magnesium chloride, 2·4 calcium chloride, and 1·2 potash. To the south-west of the lake are deposits of rock-salt, forming the chief portion of the hills of *Udom* or *Sodom*, where a pillar of rock-salt was pointed out as *Lot's wife*.

Rock-salt abounds from the neighbourhood of *Mount Ararat* westward along the mountain chains bordering the upper courses of the *Euphrates* and *Araxes*, to the mountains to the west of the *Kizil Irmak*. It is particularly pure at *Beli Bagh*, near *Kankari*, 2500 feet above the sea. At *Ulah*, and near *Amasia*, salt is found, and there are salt mines in the valley of the upper portion of the *Kizil Irmak*, and also at *Kulpia* in the valley of the *Araxes*. The whole of the upper course of the *Araxes*, especially in the neighbourhood of *Mount Ararat* and *Nakhitshevan*, abounds with rock-salt.

The greater part of *Kurdistan* is supplied with salt from the *Lake Urumiah*, south of *Mount*

SALT.

Ararat. It is 80 miles long by 20 miles broad, and its shallow waters are intensely saline.

Rock-salt also occurs in the valley of the *Oxus* and its tributaries, and mines are worked near *Bokhara*, at *Guzar*, *Nerak*, *Altanin Dara*, *Sangar*, and *Khulm*.

In *Arabia*, rock-salt is found near *Loheia*, and in two districts east of *Loheia*, also in the hills of *Al-Kasym*, and in the hills near the coast, in the vicinity of *Bahrein Island*; and salt is manufactured on all the *Arabian* coasts, in quantities sufficient to admit of exportation.

At *Hit*, near *Baghdad*, are saline wells; also small salt lakes at *Al Muhl* and the neighbourhood, and salt abounds at *Toz Khurmat*, to the east of the *Tigris*.

Near *Shiraz*, there are several salt lakes, which furnish the neighbouring country with salt. The chief of these are *Mahluja* or *Lake of Shiraz*, *Lake Bakhtigan*, and *Lake Kazarun*.

The mountains of *Kirman* and *Laristan* abound in rock-salt. The hills in the island of *Ormuz* are almost wholly composed of rock-salt, which is mined and exported. The neighbouring island of *Angar* is also noted for its rock-salt.

A few miles to the north of *Neshapur*, rock-salt is mined, and there are brine springs at *Puli Nika* to the south of the *Caspian*, and rock-salt to the east of that place.

Baluchistan has salt works at *Iyari*, in the south, and rock-salt of a red colour occurs in the mountains between *Cutch*, *Gandava* and *Kalat*.

In *Further India* and in the south-east of *Asia* salt is obtained on the coasts by evaporating the sea water, and inland, from saline wells, saline soils, and deposits of rock-salt.

Salt fields are extensive at *Shimpagah*, a short distance above *Mandalay*, on the right bank of the *Irawadi*, and at other places in smaller quantities.

China.—Rock-salt occurs in the island of *Taung-Ming*, in *Yunnan*, and *Sze-chuen*, and is freely worked; and brine, nearly saturated, is found at great depths in wells, sometimes 1800 feet. But the great mineral salt district of *China* lies along the foot of the mountains forming the eastern barrier of the great central plateau of *Asia*.

Salt wells and springs of *China* and springs of inflammable gas occur in the districts of *Young-Hian*, *Wei-Yuan-Hian*, in the department of *Kia-Ting-Fu*, in *Szu-Tchouan* on the borders of *Tibet*. In the neighbourhood of the town of *Ou-Thouang-Khia* are several thousands of these salt wells in a space of ten leagues by five. The wells are mostly half a foot in diameter, 1500 to 1800 French feet in depth.

Salt mines are worked in the mountains of *Corea*, and the sea-shores and lagoons of *Avadsi* furnish salt to the Japanese.

In *High Asia*, a lake bed occupies the lowest part of the whole of *Ala Shan*, and is 3100 feet above the sea; it is about 33 miles in circumference, and encrusted with a layer of pure salt 2 to 6 feet thick.

Ladakh.—Salt Lake of the *Rupshu* district is seven square miles in area. At its northern shore are a series of small lagoons, the water of which drying up leaves a deposit of common salt.

Tibet obtains its salt from the saline waters of its lakes,—the *Pangong Lake* (100 miles), in *Western Tibet*; *Lake Nam-Cho*, or *Tengri-Nor*, in *E. Tibet*, 15,000 feet above the sea, 50 miles

SALT, BLACK.

long, and 16 to 25 miles broad. Another salt lake, Bulcho, is to its north; and to its south the lakes Dalai Dabasun, Dulan Nor, and Sir-ho-Nor contain saline waters. Near the north bend of the Hoang-ho are several deserts with salt lakes, and Djaratal Dabasun, a dried-up salt lake to the west of the great bend of the Hoang-ho, supplies all the neighbourhood.—*Province of Sind; Bombay Selections*, No. xvii., 1855; *Panjab Correspondence*, 1860, iv. No. 4, 1869, No. 3; *M. and M. Pr.; Heyne; Captain Strover*, 1873; *M. Imbert; Klaproth in Jam. Ed. Jour.*, 1830, p. 108; *Drew, The Northern Barrier*, p. 305.

SALT, BLACK.

Kala namak, . . . HIND. | Sonchal namak, . . . HIND.

To make this medicinal substance, take 1 maund of Sambhar or Dindwa salt, $\frac{1}{2}$ seer of the fruit of *Terminalia bellerica*, $\frac{1}{2}$ seer of the fruit of *T. chebula*, $\frac{1}{2}$ seer of *Aonla* or *Emblica officinalis*, $\frac{1}{2}$ seer of black saji or impure carbonate of soda; all these are put into an earthen pot over a fire, and kept there till scorched; when about 35 out of 41 seers remain, the pot is taken off, and the black salt is made. About 2 maunds of wood are used. The price is Rs. 3 per maund. It is used as medicine in India and China. In China it seems to contain a little sulphuret of iron, and is given in enlargements of the spleen and liver.—*Smith, Mat. Med.; Powell, Handbook Econ. Pro.*

SALT FISH is largely used in India by the people as a condiment. In 1882, the Government of India acted on Surgeon-Major Day's recommendation that the tax on salt used in the preparation of salt fish should be remitted. In 1879-80, it was imported into India to the value of 6 lakhs of rupees, and from 1877-78 to 1879-80, the quantities imported ranged about 2500 tons.

SALT, HENRY, author of a *Voyage to Abyssinia*, and *Travels into the Interior of that Country*, in 1809-1810, London 1814.

SALTPETRE, Nitrate of Potash.

Ubkir, ARAB.	Potassae nitras, . . . LAT.
Malh-i-Barut,	Salt-petre,
Siau-shi, Mang-siau, CHIN.	Sandawa, MALAY.
Yen-siau, Ho-siau,	Nitro, FORT, FR. SR.
Ti-shwang,	Senitra, KUS.
Salpeter, DUT., GER.	Yavakshra, SANSK.
Nitre, ENG., FR.	Wedi-lunu, SINGH.
Suria-khar, GUJ.	Salitre, SP.
Shora, HIND., PERS.	Pottil-uppu, TAM., TEL.

The saltpetre of commerce is obtained from the East Indies, chiefly from Oudh, Bengal, and Nellore. Saltpetre exported from India was, in

Cwt.	Rs.	Cwt.	Rs.
1874-75, 553,330	50,14,678	1878-79, 382,405	36,17,660
1875-76, 415,080	34,89,487	1879-80, 509,372	46,97,968
1876-77, 466,218	38,17,060	1881-82, 354,860	35,91,367
1877-78, 389,002	37,90,017	1882-83, 399,565	38,87,662

It is manufactured in India by lixiviating nitrified earths, and evaporating the liquor thus obtained either by artificial heat or by the solar rays. Saltpetre soil is found abundantly on the surface of nearly all the uncultivated soil in most old towns and villages, within or in the immediate vicinity of the town or village, also on the sides of roads, and encrusting the walls of houses. The nitrous efflorescence is most abundant during the dry weather from January to June, and is not procurable during the rainy months, or after rain showers. Saltpetre soil always contains more or less common salt, and in Oudh is often intermixed with patches of purely salt earth. The processes

SALTPETRE.

of lixiviating, filtering, running off from one compartment to another, and collecting the crystallized saltpetre, are similar to those followed in the manufacture of Glauber's salt.

It generally occurs as a white incrustation on the soil, being also mixed with it to a considerable depth. The earth is scraped and boiled with water. The solution is then concentrated by the heat of the sun, and the water afterwards evaporated by artificial heat. From this the salt appears in impure crystals, which are exported in coarse bags of sacking. In this state the salt is known as rough saltpetre. The empty bags are soaked and boiled to extract the salt they may have imbibed, and then sold to the makers of coarse wrapping paper. Its ordinary price is £38 to £40 the ton, but during the mutinies in Northern India in 1857 and 1858, it rose to £59. It is refined by boiling and cooling, the pure crystals forming in the cold solid solution, leaving the impurities still dissolved.

The soil of the Bellary, Ongole, and Nellore districts is very favourable for the manufacture of saltpetre.

Burma.—Saltpetre is manufactured in several places in Upper Burma to about 50 tons annually. It is found in some of the caves of Tenasserim, and is imported from Rangoon. It is manufactured in China from the natural efflorescence of the soil, but it is largely imported.

In *Cuttack* nitre is known locally as Kehai jabkhali.

The commercial saltpetre examined in Madras has, generally speaking, been very pure, and especially free from sulphates. It is made at Moganore and Errode, also of a very fine quality at Ellore.

Panjab.—A saltpetre is made in most of the plain districts of the Panjab, particularly in Multan, Dehra Ghazi Khan, Jhang, and Gugara, where it effloresces spontaneously about old ruins, and is collected and purified by boiling and re-crystallization. It forms a considerable article of export, both inland, beyond the frontier, and also to the seaports. Saltpetre is found naturally in the soil, in many parts of the Panjab, efflorescing near old buildings. It is not to be confused, however, with the white efflorescence often observed on the reh, or barren uncultivated lands, and which is usually a sulphate of soda.

Saltpetre and salt are produced abundantly in some parts of Shalabad, and crude saltpetre is prepared at from 6 to 7 rupees per local maund, by the Nooneah workmen; this, in its crude state, would be £15 to £18 per ton, while the salt produced with the saltpetre is of a coarse kind.

Marsden, in his *Sumatra Researches*, referring to the saltpetre caverns in the country of Cal-town, near the land of the Davi river, states that these caves are filled with nests of innumerable birds of the swallow kind, which abound the more the further one advanced into the cave, and that it was their dung forming the soil (in many places from 4 to 6, and even from 15 to 20 feet deep) which affords the nitre. A cubic foot of this earth produced on boiling 7 lbs. 14 ounces of saltpetre, and a further experiment gave one-ninth more.—*Quarterly Review*, July 1868; *Rohde, MSS.; Cat. M. E. of 1857; Cat. Ex., 1862; Burckhardt*, p. 114; *Robinson's Travels*, ii. p. 135; *Marsden's Sumatra; Mason's Tenasserim*.

SALT RANGE, a range of mountains between lat. 32° and $33^{\circ} 20'$ N., and running east and west from the base of the Suliman Mountains to the river Jhelum, in the Shalpur and Bunnu districts of the Panjab. The Bunnu portion of the range runs north-westward towards the Indus. The main chain commences in the lofty hill of Chel, 3701 feet above the sea, which is formed by the convergence of three spurs rising up from the Jhelum river, and divided from the Himalayan outliers only by the interposition of the river valley.

The Salt Range of mountains seems to be the Mons Oromenus of Pliny and the Sanskrit *Rapmaka*. The range occupies historic ground,—one extremity resting upon the Hydaspes or Jhelum, and the other upon the Indus or Aba-sin, while its eastern extension overlooks the battlefield of Chillianwalla. It is one of the most interesting and important regions of British India, chiefly on account of its highly fossiliferous rocks and enormous deposit of rock-salt, which, for extent and purity, are unequalled in the whole world, and it is from this that the range is named.

The Salt Range proper lies entirely on the eastern side of the Indus, forming a somewhat elevated border to the Rawal Pindi plateau (lying to the north); and throughout its whole length of about 150 miles, its steep declivities and lofty scarp'd cliffs, rising to an average height of 2200 feet, abut on the vast semi-desert plain which spreads southward to the Arabian Sea. Mr. Wynne considers that it is an error to speak of the range as extending across the Indus, and up to the Safed Koh in Afghanistan, as the salt there is believed to be of an entirely different age and position. In different parts of the range are to be found brine springs, hot springs (in the Bakh ravine), the water of which is covered by a thin film of gypsum, and deposits a black tenacious mud, used by the natives as a dye for cotton cloth. Petroleum springs have been found, and the range yields magnesian limestone, fire-clay, marble, lithographic stones, sandstone, coal, sulphur, gypsum, brown and red iron-ore, copper-ore, gold, and alum slate. The lower beds contain no organic remains, but the upper abound in them. Sandstone abounds, with the exuviae of enormous animals, either saurians or sauroid fishes. The hills at Kalabagh contain great quantities of aluminous slate, from which alum is manufactured. The slate, well sprinkled with water, is laid in alternate strata with wood, until the pile reaches a height of 25 to 30 feet; it is then lighted, and the combustion continued for about twelve hours, in which time the colour of the slate is converted from greyish-black to dark-red. This change of colour indicating that the process has been carried to a sufficient extent, the mass is thrown into a tank holding as much water as it is computed the alum is competent to saturate. After three days, the water, which becomes of a dark-red colour, is drawn off, mixed with a due proportion of potash, and boiled down; the residuum on cooling becoming a solid mass of alum. The coal occurs in oolitic strata at Kalabagh, and is employed as a fuel for the Indus steamers, and in tertiary strata between Jalalpur and Pind Dadan Khan. It is of inferior quality, consisting of a brown lignite, difficult to set on fire, and yielding a very large proportion of ash. The principal beds of salt

occur in the red marls and sandstones of the Salt Range. They are from 150 to 200 feet in thickness, but masses of salt are also found interspersed among the marls, and detached from the main beds. There are three principal varieties of salt, viz. red, white, and crystal salt. The red is preferred for merchandise, as it does not break up so readily as the others. The white variety not unfrequently passes into a grey or greenish and purplish colour. The Bahadur Khel Trans-Indus mine yields black salt, and this is shipped at Esa Khel for export, having specific uses of its own.

SALU, narrow coarse cotton cloth dyed red with madder.

SALUER. MALAY. Trousers of silk or cotton, or silk and cotton mixed.

SALUNG. SIAM. A money of account, the fourth of the tikal, and worth about $7\frac{1}{2}$ d.—*Simmonds*.

SALUNKHA, HIND. ? is the top of the linga altar.

SALUP. MALAY. A weight used in Sumatra, of 2 lbs. avoirdupois.—*Simmonds*.

SALUTATIONS amongst the various races of Asia differ in form. *Genesis* xxxiii. 4 says, 'And Esau ran to meet him, and embraced him, and fell on his neck.' Hindus have five forms of saluting, viz. (1) the *Ashtanga*, in which the person prostrates himself, and makes eight parts of his body touch the ground, viz. knees, hands, temples, nose, and chin; (2) *Panchanga*, five parts, the forehead, temples, and hands; (3) *Dandavata*, in which the forehead touches the ground; (4) *Namaskara*, in which the palms of the hands are joined and raised to the forehead, which is touched with the outstretched thumbs; and (5) *Abhivadana*, in which the right hand is raised to the forehead.

All the races of Southern and Eastern Asia meet persons of distinction a mile or two before they enter a city, and a visitor is received according to his rank at the outer gate of the house, at the door of the room, or by merely rising from the seat. It is customary for all relations and friends to call upon the traveller the very day he returns, that is to say if amity is to endure.

A Hindu, when he meets a friend after absence, throws his arms round him, and his head across his shoulders, twice over the right shoulder, and once over the left, and uses other ceremonies, according to the rank of the parties. Salutation is alluded to in *Matthew* v. 47, xxiii. 7, *Mark* xii. 38. The usual way of kissing the knee is to place the finger tips on it, and then raise them to the mouth. It is an action denoting great humility, and the condescending superior who is not an immediate master returns the compliment in the same way.

2 *Samuel* xiv. 20 says, 'My lord is wise according to the wisdom of an angel of God.' This is very much like the hyperbolic language of India. Hindus will often say, 'Sahib can do everything.' No one can prevent the execution of Sahib's commands. Sahib is God.

Visitors are seated with strict attention to their rank, which, on public occasions, it often takes much time to settle.

Brahmans are saluted by joining the palms and raising them twice or thrice to the forehead, or the Brahman's foot is touched with the hand,

which is then raised to the forehead. Brahmans have a peculiar phrase of salutation for each other. The very humble, or persons in great distress, bow their heads or bodies, or prostrate themselves with their turbands off and their heads in the dust.

Hindus and Muhammadans usually salute with their hands, or by prostrations, in silence. But with the Rajputs, an inferior salutes a superior with *Jye-Deva*, Victory, my Lord! Some Hindus on meeting repeat twice the name of Rama, Ram-Ram; this and *N'mo N'ma* are Mahratta forms, and *Sri-nath*, a Canarese form. As a visitor approaches a Muhammadan prince, the attendants exclaim *Paon-hi-adab*, approach with respect, and when the prince may rise or sit down, the *Mir-dih* will exclaim, *Umr-o-Daulat-ziada*, may years and fortune be prolonged. Occasionally a Muhammadan will say *Salam Sahib* to a European. A Muhammadan servant on receiving an order will reply, *Jo-hukni*, whatever your order; or *Ba sar o chasm*, on my head and eyes be it.

The antiquity of the eastern salutation *Salam* is shown by an epitaph of Meleager, which addresses the passer-by, and concludes thus:—

'If thou art a Syrian say *Salam*, but if a Phœnician
Say *Audonis*, if a Greek, *Xaire* (χαίρει).'

Salam is the Hebrew *Selah*; *Audonis*, a Punic word, is uncertain.

Amongst the Bhot race, in the Ladakh frontiers, the people salute by raising the back of both hands to a height even with the forehead, and then, repeatedly describing a circle in the air with them, end by drooping the fingers downwards and turning the palm inwards. There is a similar Muhammadan practice of *Billain lena*, where a woman is supposed to take upon herself all the evils which would befall the person whom she addresses and thus encircle.

In salutation, the Persians say, *Afiyat bûshad*, may it be health to you; or *Nosh-i-jan*, may it be a drink of life. The Arabs say, *Hania*, may it be good to you; the person addressed bows and returns, *May Allah be your preserver*. Amongst Muhammadans in India the ordinary salutation at meeting is *Salam-alaikum*, peace be unto you, and the return is *Alaik-us-salam*; but a servant will exclaim *Daulat-ziada*, may your wealth increase; *Umr darâz*, may your life be prolonged; *Umr-o-Daulat-ziada*, may your years and your dignity increase. A person of high rank, as in Europe, first addresses a visitor by asking *Khariat?* are you well? to which the reply will be, *Is your highness well?* The salutations in India amongst Muhammadans often assume the form of a blessing or prayer, as *May your life be long*; *May you live a century and a quarter*. A Muhammadan makes a salutation ordinarily with the right hand; it is raised either to the breast or to the forehead, with or without the words, as *Salam-alaikum*, the peace of God be with you.

Pupils kiss the hand or sleeve of their teachers. Homage is paid by kissing the feet of the ruler, or by kissing the ground or carpet, or by laying the turband at a conqueror's feet.

All visits end by the head of the house presenting betel leaf with areca nut, etc., to the guest, and sprinkling on the guest's handkerchief some essential oil or *attar* (otto) of roses, sandal-wood, etc., or rose-water, and this is the signal for leave-taking.

Burmese bend the head three times to the ground.

In China, when friends meet, they each fold their hands in silence. If anything be said, it is *Tsing! Tsing!* meaning I pray you! I pray you! *O-hio* is a friendly salutation of the Japanese.

The people of New Zealand press their noses against those of the friends whom they salute.

In Fiji the hands are clapped to show respect to a chief or superiors. In Japan it is a ceremony of respect to superiors. In Fiji the mountaineers in expressing astonishment shake backwards and forwards and transversely once or twice the right hand.—*Ward*, iii. p. 189; *Burton's Mecca*, i. p. 292; *Burton's Scinde*, ii. pp. 20, 21. See *Musafha*; *Salam*.

SALVADORA OLEOIDES. *Dne.*

Van, Vani, . . . PANJ. | Jal, Jhal, . . . PANJ.
Mithi-van, Wannah, " | Plewane, . . . TRANS-INDUS.

Fruit. *Dried fruit.*
Pilu, Peelu, Pil, . . . PANJ. | Khokar, Tak, . . . TH-IND.

This tree is very abundant in the Panjab and as far east as the Jumna, fringing the sandy tract as the *jhal*, the *Tamarix dioica*, does the river. Wood close-grained, much used for fuel; in the Multan division its wood is used for rafters and as knee timbers for boats. In some arid parts of the Panjab, it forms the only vegetation; it occurs in Sind, and trees are met with of 11 to 14 feet in girth. It flowers in April, and when its abundant, sweetish, red fruit ripens at the beginning of the hot weather, it is very largely eaten by the people, who go in numbers to gather it. A gall occurs on this tree used in dyeing, and the root is ground and applied as a blister.—*Stewart*; *Cleghorn*; *Col. Lake*.

SALVADORA PERSICA. *L. Tooth-brush tree.*

S. Indica, *W. Ill.* | *S. Wightiana*, *Bedd.*

Arak, . . . ARAB. | Pilu, . . . SIND.
Khardul of Talmud. | Opa-ughai, . . . TAM.
Jhal, Pilu, . . . HIND. | Waragu-wenki, . . . TEL.
Kauri-van, Kauri-jal, " | Ghunia, . . . " "
Kabbar, Kharijhar, SIND. | Chinna vara-gogu, " "

This, supposed to be the mustard tree of Scripture, grows in Arabia, the Persian Gulf; is very common in Ajmir and Marwar; is not a common tree on the Bombay side of India, except at Muhammadan durgas and places of worship; but it grows wild on the coast in the Hubshee's country of Janjirah, and in the Southern Mahratta country, though it seldom reaches any size. In Sind it is more common, and grows considerably larger. It thrives well in every soil, and is in flower and fruit all the year round. The bright green of the leaves is very refreshing to the eye, as the tree grows in very barren places; it is generally semi-recumbent on the ground, and affords little shade. The leaves and bark are very acrid, smelling very strongly of cresses; the freshly-pounded bark of the roots is an active epispastic. Trunk generally crooked, from eight to ten feet high to the branches, and one foot in diameter. A decoction of the bark of the stem is said to be tonic, and the red berries eatable. Dr. Gibson was inclined to think that the wood of this tree is well worthy of an extended trial, as it seems rather strong and of compact grain.—*Irvine*; *Roxb.*; *Gibson*; *Royle*; *O'Sh.*

SALVADORA WIGHTIANA. *Planch.*

S. Indica, *Wight, Illus.* | *S. Persica*, *Roxb.*
Opa, TAM. | Pedda, Waragu-wenki, TEL.

This middling-sized tree is common throughout

SALVIA BENGALENSIS.

the Madras Presidency, in low lands in the plains, and particularly in saline soil; the berries have a strong aromatic smell and taste like garden cress; the bark of the root is very acrid, and if applied to the skin raises blisters, for which purpose the natives use it, and as a stimulant it might be of considerable efficacy. It or an allied species is said to be the mustard tree of Scripture; it is in flower and fruit all the year round.—*Thw. En. Pl. Zeyl.* p. 190; *Beddome, Fl. Sylv.* xxi. p. 247.

SALVIA BENGALENSIS. *Rottler.*

Meriandra Bengalensis, Benth.

Murtoo, BENG. | Saya elley, TAM.
Valaiti Kafur-ki-pat, DUK.

A straggling shrub with a trunk often as thick as a man's arm; common in Bengal and Coromandel, much stronger than the official sage. It is cultivated in European gardens. Hindus think this a very impure plant.—*O'Sh.; Irvine.*
Salvia hematodes, W., Behn, ARAB., Lal-behman, BENG., is the bloody-veined sage.

Salvia Moorcroftiana, Kanocha, HIND., a plant of Kaghlan, growing plentifully in the valley of Kashmir; its seed are official.—*Hornig.*

Salvia multirrhiza, Tan-san, CHIN., a sage grown in Shen-si, Shan-si, and Shan-tung.—*Smith.*

Salvia officinalis, W., Garden Sage.

Salbia, HIND. | Sefa kas? TAM.

Of somewhat bitter, hot, aromatic, and slightly astringent flavour. These qualities are retained on drying. It affords on distillation with water a large quantity of essential oil, containing 26 per cent. of camphor. Sage is used for stuffings and flavouring various dishes.

Salvia plebeia, King-kai, CHIN., is used medicinally.—*O'Sh.; Jaffrey.*

SALWIN or Salween, a river of Tenasserim, British Burma, with a general north and south course. The source of this river has never been explored; but the best authorities agree in stating that it is in proximity to the source of the Irawadi (Irrawaddy), far up in the snowy range which lies eastward of Assam, in lat. 28° N., and forms part of the Himalayan system of mountains. After traversing Yunnan, a Chinese province, and the Shan and Kareng-in States, lying south of it, the Salwin enters British Burma at its extreme north-eastern corner, and for some distance, as far as the Thoungyeng river, marks the eastern limits of the province. At Moulmein the Salwin receives from the eastward the Gyaing, formed by the junction of the Hlaing-bhwai and the Hounghtharaw, and the Attaran, which joins the Gyaing at its mouth. Here the Salwin splits into two mouths,—the northern, flowing between Bhi-lugywon and the old town of Martaban, is unnavigable now by reason of sandbanks, but some centuries ago was the principal entrance. The southern branch flows past Moulmein, and falls into the sea at Amherst by a mouth 7 miles wide. By this channel vessels of the largest size can reach Moulmein, but navigation is rendered difficult by the shifting of the sands. The area of the Salwin basin is 62,700 square miles; it is 800 miles in length, but seldom more than 100 miles in breadth.

SALWIN HILL TRACTS, a British district in Tenasserim division, British Burma. The population in 1872 was returned at 26,117; in 1877, at 26,649. The inhabitants are almost entirely

SAMADHI.

Karens; a few Shans are settled in the neighbourhood of Pa-pwon. The eastern portion of the hill tracts was formerly inhabited by Rwon Shans, whence the name Rwon-za-lang; but the larger number of these were brought away by Aloungbhura to what is now the Syriam township of Rangoon.—*Imp. Gaz.* viii.

SALYA, a raja of Madra, sold his sister Madri to be the second wife of raja Pandu. His country was probably on the southern slopes of the Himalaya, or in Butan, and the customs of the people were barbarous. He was present at the battle of Kuru-kshetra, was the generalissimo of the Kaurava on the last day of the war, and was then slain by Yudisthira. During a dispute in the midst of the battle, Karna, when advancing to meet Arjuna, angrily twitted Salya with the customs of his country, where wives, mothers, sisters, daughters, brothers, and uncles all commune together in a medley.—*Wheeler, Hist. of India.*

SAMADERA INDICA. *Gartn.*

S. pentapetala, Gartn. | *N. tetrapetala, Wall.*
Niota pentapetala, Poir. | *N. lamarekiana, Blume.*
D.C. | *Vittmannia elliptica, Vahl.*

Karin gota, MALACAL. | Samadara-gass, SINGH.

A large tree of the south of Ceylon, the south of India, and common in the Konkans and on the Malabar coast; its bark is the Nicpa bark of commerce. The bark, root, and fruit of the plant are intensely bitter, like other plants of the quassia family, and are used as a medicine by the Singhalese.—*Eng. Cyc.; Useful Plants; Thw.*

SAMADERA LUCIDA. *Gartn. Niota lucida.*

Ka thay, BURM. The low grounds near the seacoast of Tenasserim are ornamented with this handsome shrub, which bears a rather curious flower; its leaves are most intensely bitter; it is cultivated in the gardens about Batavia.—*Mason; Wall. Pl. As. Rav.*

SAMADHI. SANSK. The spiritual throne of the founder of a Hindu sect, the gaddi or pillow at the seat of the original site of the sect.

SAMADHI, silent abstraction and contemplation of the Supreme Being. This in Hindu belief is a power that enables its possessor to exercise an entire control over all his faculties, and keep them in perfect restraint. In that performed by Jogis, they pretend to be able to suspend the connection between the soul and body.

Also, the self-immolation of a Jogi mendicant, by burying or burning himself alive; also, the ceremony of sinking in water or burying the corpse of a deceased Jogi; a small or low shrine or tomb erected over the grave of a Jogi, commonly surmounted by a standing place for a tulsi plant.

Burying alive with Hindus receives religious sanction, on the ground that where there is no remedy, the prolongation of hopeless misery is not demanded by the divine ruler, and its termination may be left at the option of the wretched sufferer. It was therefore permitted to those who were slowly wasting under such loathsome and incurable disease as leprosy, to put a period to their days when life became intolerable; and it was feared that if death in the ordinary course of nature were awaited, there would be none to carry the polluted corpse to the grave. A deep hole is dug in a retired spot, where there is little chance of interruption; the sufferer drags himself to the place as best he can, and descends into the hole. His friends throw the loose earth over him, and in a few short moments

it is all over. The Pioneer newspaper tells of a leper who had lost his hands and feet under the ravages of the horrible disease, and belonged to a family of lepers. His father and some of his brothers and sisters had already fallen victims to it, and his immediate descendants were afflicted with the malady. He had no hope of recovery, no wish for further life; so he asked his son to dig his last resting-place, and, dragging himself there, put an end to his sufferings.

Cases yearly occur in one part or other of British India. The Alit of Anjar in Cutch say that their patron saint was a Chauhan king of Ajmir, who ended his days by a voluntary death; Jaisal, a Jhareja Rajput of Kedana, near Tuna, and his wife Turi Kathiana, about the 15th century, voluntarily perished, and are worshipped.

Samad'h was practised in Rajputana up till 1868. The Political Agent of Serohi furnished a list of instances in the course of six years that had come to his knowledge, chiefly in the neighbourhood of Motagaon, a border village. Out of nine cases of Samad'h reported, eight of the victims were lepers, the others having been sacrificed, no doubt at their own desire, on account of old age and poverty. The Rao of Serohi issued a proclamation forbidding the practice, under the penalty of ten years' imprisonment; but in many of the cases the persons who dig the pit and cover up the unfortunate wretch are themselves lepers, and to them death itself would be welcome, and the Rao would hardly care to introduce any of them into his prisons in Serohi.

In the Rajput State of Bikanir, a Samad'h or burying alive occurred at a village called Upni, sixty miles from the chief town of the state. It came about in this way: The Thakur of Sandhwa sent his vakel to the above-named village to collect revenue. The Siddhs of the place, however, refused to pay, and, in order to intimidate the Thakur, 150 of them collected before his door, squatted down there, and threatened to commit suicide unless he gave way. As the Thakur held out, they selected two of their number, — a man aged seventy-five, and a woman aged sixty-five, — and buried them alive on the Thakur's premises. The village lumberdars tried to prevent this crime, and were soundly punished for their good intention. Twenty-nine Siddhs were taken into custody, and nineteen sentenced to various terms of imprisonment.

Near Ahmadabad, a Brahmacharya Bawa, residing at a place called Beit Sankheidhar, is said to have been a Pardesi who lived in a hut on the verge of the Dhangishwar Mahadeo tank in the place above mentioned. For twelve years he was in the habit, it is said, of praying for a couple of hours daily, all the while gazing intently at the sun without turning his eyes from its scorching rays. At last he called his creditors together and paid off every pie of his debts. He then repaired to the temple known as Dwarka's Munder, for his last hymn of praise, and thence straight to an out-of-the-way place, where he had previously improvised for himself a sort of funeral pyre with his own hands. He ascended the pyre with alacrity, performed his own funeral rites by lighting it with his hands, and thus voluntarily burned himself to death. Information of this self-immolation was given by a barber to a police-officer, who, on proceeding to the place, found that he was too late, for the Bawa's body

was by that time nearly all consumed.—*Eastern Monachism*, p. 441; *W. Friend of India*, May 1868; *Pioneer*.

SAMADHIKA, a sect who preceded Sakya Muni; they placed the attainment of everlasting bliss on the continued practice of Samadhi, or of deep and devout abstraction.

SAMANA, in the Sanskrit, Shramana, literally hermit; whence is derived the name Samanæans, applied by Clement of Alexandria to the adherents of Buddha; hence also the title Shaman or Sraman, given in Northern Asia to the Buddhist priests.

Samanaros is the designation, in Ceylon, of the Buddhist priests who have attained the first rank of ordination. This name, preserved to the present day as the designation of the Buddhist priesthood in Siam and Ceylon, is identical with the Samanæans or Buddhists of Behar, described by Megasthenes, who, B.C. 300, was an ambassador from Seleucus to their king, and whose last work, on the state of India at that period, is quoted by Strabo and Pliny. The same designation for the priesthood, Samana, is applied equally by Clemens Alexandrinus, in the 2d century, and by Porphyry in the 4th.

A Buddhist novice must be eight years old, and have the consent of his parents. His vows are not irrevocable.—*Bunsen, God in Hist.* i. p. 355; *Tennent's Christianity*, p. 216.

SAMANDAR KHAG. HIND. Literally sea-foam, the dorsal plate of the sepia or cuttle-fish. It is used medicinally as an absorbent and antacid, and to rub down paint-work. It is now in Europe only valued as a tooth-powder, and in the arts considered refrigerant; used in eye ointments, also in mesalisms.—*Gen. Med. Top.* p. 150.

SAMANGARHA or Simroun, a dynasty who reigned from A.D. 844 to A.D. 1323, in the Terai south of Nepal.

SAMANI, a dynasty ruling in Bokhara, Khorasan, and Persia (A.D. 874-75-999). The origin of their name is not known. By order of Mamun, three of the sons were appointed to governments beyond the Oxus, and one to that of Herat. They were continued under the Taberides, and retained Transoxiana, after the fall of that dynasty, till the death of Yakub Leis; when they passed the Oxus at the head of a large army of cavalry, made Umar Leis prisoner, and took possession of all the territory he had conquered, and governed it, really independent, till deprived of it by the Delmites.

The Samani, however, remained masters of Khorasan and Transoxiana, and gave rise to the dynasty of Ghazni, who were the founders of the Muhammadan empire of India, which lasted under several dynasties for above 800 years.

The Samani are generally reckoned Turk; but their founder was presented to the Khalif Mamun at Merv in Khorasan, and was neither a Turki chief nor a slave. The family claimed a Persian ancestor, at a time when a descent from the Gabr race would not have been an object of ambition to men of another race. They were the first encouragers of Persian literature.—*Elph.* pp. 71, 300.

SAMAPATTI. SANSK. In Buddhism, silent abstraction and contemplation of the Supreme Being. See Samadhi.

SAMAR. Amber is frequently gathered in considerable lumps in the vicinity of Samar and the other islands of the Bissaya group of the Eastern Archipelago, as well as mother-of-pearl, tortoise-

SAMARANG RESIDENCY.

shell, and red and black coral; of the latter kind, shafts are obtained as thick as the finger, and six or eight feet long.—*Walton's State*, p. 38.

SAMARANG RESIDENCY and town in Java has 1,278,244 of population, exclusive of the military, viz. Europeans, 5159; Natives, 1,255,441; Chinese, 1592; Arabs, 717; others, 1006. Near Samarang is the headquarters of the army of Netherland India. It is strongly fortified. Samarang anchorage is exposed in the western monsoon; the town is built on both sides of a small river.—*Bikmore*, p. 56.

SAMARCAND, in lat. 39° 38' 45" N., and long. 64° 38' 12" E. of Paris, is a town 2150 feet above the sea, was the capital of the ancient Sogdiana. It is 2 miles distant from the left bank of the Zar-afshan river, 235 miles from Bokhara, 247 from Khokand, and 139 from Tashkand. It has eight gates, is 8½ miles in circumference, and has a population of about 70,000 souls, viz. 40,000 in the Russian quarter, and 30,000 in the Asiatic quarter. The area of its ark or citadel is 91·87 acres. It has 165 mosques, 24 colleges, 24 cemeteries, 33 caravansaries, 3000 shops, and 1000 factories and establishments. The Talar-i-Timur, or reception-hall of Timur, contains the Kok-tash, a colossal mass of stone of a greenish or bluish colour, 10 feet long, 4 feet broad, and 4½ feet high, on which the throne of Timur used to be placed. Each amir of Bokhara, on his accession, took his seat on this stone.

European goods of every kind are largely imported, and skins, knives, carpets, silks, embroidered saddles, etc., are exported. The citadel, which is defended by a strong wall thirty-six feet high, and nearly two miles in circumference, is one of the finest in Central Asia. This city has been subjected to many reverses. It was known in the time of Alexander the Great by the name of Marakanda Regio Sogdianarium.

Shammir Yerash, the son of Yashir, the successor of the Balkees of the Christian era, was one of the greatest warriors who ever held the throne of Yemen. He carried his arms into Irak, Persia, and the neighbouring countries, attacked and nearly destroyed the ancient capital of Sogdiana, which thenceforth took the name of Samarcand. Remains of Himyaritic inscriptions were long found there, and one mentioned by Abul Fada began thus: 'In the name of God, this building was erected by Shammir Yerash, in honour of the Lord the Sun.' Shammir afterwards perished with his army in the deserts of Tibet, in an invasion of China. To revenge the death of his grandfather, Toba-ul-Akran, who occupied the throne of Yemen for about fifty years, from A.D. 90 to A.D. 140, marched and rebuilt Samarcand; carried war into China, where he founded a city which Thaaalebi called El-Beit, and where he left a colony of 30,000 Arabs, who continued a distinct people when Hemedoun wrote in A.D. 553. Samarcand in the time of the Samanides was the largest city beyond the Oxus, and only began to decline from its former importance when Ismail chose Bokhara for his own residence. Under the Kharezmiens it is said to have raised itself again, and become much larger than its rival, and under Timur, to have reached the culminating point of its prosperity. Timur marched from Samarcand in A.D. 1397, into India, but returned the following year and proceeded against Syria, Egypt, and Constantinople. With the fall of the Timurides, its decay com-

SAMBALPUR.

menced; Bokhara became from this time the only official capital, and the princes of the house of the Sheibani, the Ashtarkhani, and the Manghits, only visited Samarcand as a summer excursion for the sake of its natural beauties.—*Vamberg, Bokhara*, p. 27.

SAMARITANS have been inhabitants of Nablus, the ancient Shechem, near Jerusalem, since the time of Nehemiah. Samaritan history is detailed in 2 Kings xvii. It had been attacked by Sargon, B.C. 746, 745, was besieged and taken B.C. 719, and the people carried away to Assyria and Medea. According to the Samaritan traditions, it was on the rock surface of Mount Gerizim that Abraham prepared to sacrifice his son Isaac. This was the Bethel of Jacob, and to this day the Samaritan priest takes off his shoes as he nears the spot, because it is holy ground. Samaritans are Christians since Jesus planted it amongst them, John iv. 5-42. In the rites of the Yom-kippoor, or day of atonement, of the Samaritans, they make in their responses avowals of their belief in Jehovah and in Moses, and are accompanied by constant sudden prostrations, and by frequently rubbing down the whole face and beard with the right hand, a gesture frequently used by Muhammadans when any sacred name or form of words is said, and seems to be an attempt actually to catch the grace of the words residing in the breath of the speaker himself, and communicate it to his beard and countenance.

SAMASAN, HIND., also Samsan and Smsan, a place of cremation of Hindus; a burning ground.

SAMASTANAM. TAM. A metropolis, the residence of a family of rank; a house, a family.

SAMAVARTHANUM, the ceremony of a Brahman returning home at the termination of his studentship.

SAMBA. TAM. A fine kind of rice with white and well-flavoured grains. It is sown in July, transplanted in October, and reaped in February.

SAMBAH amongst the Malay means obeisance, homage, etc., and is used for the ordinary words 'to speak' by inferiors to a king; Salam is the simple Arabic salutation, 'peace'; subjects or inferiors addressing a king are said to sambah, not to chapak or kata, or other words in common use.—*Jour. Ind. Arch.* v. No. xi.

SAMBAL. JAV. Cooked vegetables mixed with capsicum; a Malay sweetmeat.

SAMBALPUR, a town in the Central Provinces of British India, on the left bank of the Mahanadi river. It is the headquarters of a district of the same name, lying between lat. 21° 2' and 21° 57' N., and long. 83° 16' and 84° 21' E. The Bara Pahar Hills are covered with dense jungle. The Mahanadi, near Padmapur, contains large masses of granular limestone, resembling marble. Gold dust is washed for in the Mahanadi and the Ib, and diamonds are found at the junction of these rivers, near Hirakhuda island.

During native rule, 15 or 20 villages were granted rent-free to a class called Jhira, in consideration of their undertaking the search for diamonds. When the country lapsed in 1850, these villages were resumed; and though an attempt was made to lease out the right to seek for diamonds, the farm only fetched some Rs. 200 per annum for a short time. Under the native government it was the practice to give the jhira diamond-seekers a

village rent-free, if they produced a good-sized diamond, land being of little or no value then. The smaller diamonds they used to secrete and sell. So far as can be learned, the best stones ever found here were thin and flat, with flaws in them, but they were admirably suited for setting in native jewellery.

The most numerous of the aboriginal tribes are the Savara (53,603 in 1872), and the Gond (43,687), with Kol, Bhil, Binjwal, Khond, etc. In 1872, Brahmans numbered 17,552; the mass of the Hindu population consisting of Gaur (60,026) and other cultivating or inferior castes. The Kolta, the Agharia, and the Brahman are the largest cultivators. The labourers are the Pab, Saoura, Gauda, Gond, Mali, and Gaoli races.

The Uriya Brahmans came from Cuttack and Puri within comparatively recent times, while the Jharwa Brahmans settled here many hundred years ago. The Uriya will not eat with the Jharwa. The Jharwa or jungle Brahmans are careful, hard-working, and intelligent, cultivating the soil, engaging in trade, and turning their hand to anything useful and profitable. The Mahanti are the clerks of Orissa; they are immigrants from the districts to the east, and take occupation as clerks in government offices, schoolmasters, etc. They are an intelligent but somewhat effeminate race. The Bhulia are weavers of cotton cloths, not celebrated for fineness of texture, but for brilliancy of colour and variety of pattern they can hardly be excelled among coarse native fabrics. Cotton cloths are also made by the Mehra. The Koshti are weavers of tassch silk cloth. Their manufacture is justly celebrated, the texture is very even, and the silk has a lustre which never fades, however long it may have been in wear. The Sunar or goldsmith manufacture all the ornaments worn by the women; these are very peculiar, unlike those used in other parts of India. The prettiest ornaments made here are the kanthu, or necklaces of large gold-fluted beads, worn often by Brahman and Rajput sepoys of the Native army. The Kewat, fishermen and boatmen, are a numerous and hardy race, and sometimes engage in small ventures of trade. Ghasi are grass-cutters and groomers; they will also perform the duties of sweepers. The aboriginal tribes of the Khalsa are Gond, Pab, Saoura, Binjwal or Binjawar, and Kol or Dhangar; the latter came from the Chutia Nagpur direction; they are, as a class, hard-working, honest, and light-hearted, and when not engaged in cultivating either for themselves or for others, they will take service of any kind. Road-making, palkee-bearing, gardening, punkah-pulling, all come alike to them, and the women work equally hard with the men; they are fond of strong drink, but apparently only give way to it on festive occasions. At certain periods of the year, women and men dance all linked together in a circle, pace round in a monotonous but perfectly regular measure, swaying at the same time their bodies backwards and forwards, occasionally almost couching the ground with their heads; they are all decked out in their best, the women ornamenting their hair fantastically with feathers and flowers. Ghes is a chieftain attached to the Sambalpur district, situated some fifty miles west, and a little south of the town of Sambalpur. The chief's family are Binjwal (Binjawar), and were

much mixed up in the Surendra Sai rebellion — *Central Province Gazetteer*.

SAMBAN, meaning deity, the tribal title of the Pariah race in the Tamil country.

SAMBARTTA, a Hindu philosopher, born at Benares, who adopted the views of the Mimamsa school. He is mentioned in the Yoga-Vashishta Ramayana. — *Ward*, iv. p. 29.

SAMBAWA ISLAND, the third in a direct line east of Java, is about three times the extent of Bali or Lombok, and divided by a deep bay into two peninsulas. It has three languages,—the Sambawa, the Bima, and the Tambora. The natives of Sambawa are little inferior in cultivation to the most improved nations of Celebes. The Sambawa and Bima languages are written in the Bugi character, but there exists in this island a singular and curious obsolete alphabet. It is ascribed to the Bima nation, but the characters do not generally correspond with the simple sounds of the Bima language, as exhibited in the specimen given of it.

SAMBHAR LAKE, a sheet of salt water in Rajputana; when full, is 20 miles long, from $1\frac{1}{2}$ to $7\frac{1}{4}$ miles broad, and 1 to 4 feet deep. It is on the borders of the Jeypore and Jodhpur States. The country around is arid and sterile, with rocks abounding in limestone and salt, and belonging to the Permian system, and are supposed to yield the salt of the lake. The average yearly out-turn of salt is 900,000 maunds (between 3000 and 4000 tons), and the cost of storage and extraction about 6 pice (three farthings) a maund (82½ lbs. av.). As soon as the salt is formed, native labourers of both sexes, belonging chiefly to the Barrar caste, wade out to it through the mud, and, placing their hands under the salt crust, lift it off in good-sized cakes into baskets. A man brings to shore in this way about half a ton of salt a day. The salt is of three colours,—blue, white, and red; the varieties being said to be due to the presence of microscopic algæ. The bluish-gray salt is commonest, and is much esteemed, particularly in the North-Western Provinces, whither it is largely exported. The white salt is most valued in Rajputana, particularly in Jeypore; while in the Muhammadan state of Tonk the red is the favourite colour. The lake supplies nearly the whole of the chief salt marts of the Panjab, North-Western Provinces, and Central India. — *Imp. Gaz.*

SAMBUCUS, the elders, a genus of small trees of the order Caprifoliaceæ. *S. Javanica*, Reinw., grows in the Eastern Himalaya and Khasya; *S. Thunbergii*, in Northern Burma; *S. adnata* and *S. ebulus* (dwarf elder) grow in the Himalaya as well as in Kashmir. The roots of the latter, it is said, have purgative properties, and, as also the berries, are used in dropsy. — *Hortig*.

SAMBUR, a coasting vessel of 15 to 50 tons burden, trading in the Red Sea.

SAMBUR of India. *Rusa hippelaphus*, Cuv.

Cervus Aristotellus, Cuv.

C. equinus, Cuv.

C. hippelaphus, Cuv.

C. Leachensulitii, Cuv.

C. niger, Blainville.

C. jarai, Hodgson.

C. heterocercus, Hodgson.

C. saumur, Ogilby.

Ghous or Gaoj, . . . E. BENG.

Bhalonji (female), . . .

Kadavi, Kadaba, . . . JAN.

The sambur stag, . . . ENG.

Ma-ao, . . . of the GONDS.

Jarai, Jerrao, . . . HIM.

Jerrow, . . .

Meru, . . . MAHA. of GHATS.

Kannadi, . . . TEL.

Maha, in parts of TERAI.

The numerous synonyms will show that natural-

ists have found it difficult to recognise the sambur stag at its several sites in India; but Jerdon, after seeing them in the Himalaya, in Central and Southern India, considers them all to designate one species. It is a noble animal, from 14 to 15 hands in height, with antlers often a foot in circumference and 4 feet long; it is found on the banks of the Jumna and Ganges in their mountain courses; a few stray along the sub-Himalayan valleys, and have been shot and seen near Simla on the Kashmir ranges. It is found in all the large forests from the Himalaya, through Central India, to the south of the Peninsula. Its horns and colour differ somewhat, and have led to the different names. It is a favourite pursuit of Indian sportsmen. *Rusa tungue*, *Vigors*, is a stag of Sumatra; *C. Molluccensis*, *Muller*, is of the Molluccas; and *C. Peronii*, *Gray*, is from Timor. See *Rusa*.

SAMIDA-DANAM, a Brahman's offering of fuel to the sacred fire.

SAMI-RAMA, or Samu Rama, Semiranis. It is, however, supposed that the term Samarim, as used in India, did not relate to one person but to many; and it seems particularly to have been adopted by princes. The Cuthites settled about Cochin and Madura in India, and the great kings of Calicut were styled the Samarim; and the titular prince of the vicinity of Cochin is still called Zamorin. Sami-Rama is also a name of the Hindu goddess Devi worshipped on the tenth Badi of Aswina.—*Am. Anc. Myth.* iii. p. 144.

SAMI STONE, or god stone, seems to be applied to two or three minerals, to samada stone or corundum, to a variety of agalmatolite or jagodalite; and pot-stone, or a variety of steatite, in much demand in China and some parts of India for the manufacture of images and figures; and much used, also, in putting a finishing polish on steel and other metals, and brightening sword blades, bridle bits, etc.—*Bl. A. Trans.* 1845, xvi.

SAMI TREE, *Acacia suma*, worshipped by Hindus at the festival of the Dassera. See *Sama*.

SAMLAJI, a famed idol on the border line between Mewar and Mahikanta.

SAMMA. There seem to have been two Samma dynasties, an earlier and a later, ruling in Sind. The earlier seem to have been the Sambus and Sambaste of Alexander's historians, the Abestani of Arrian, and Sabarce of Quintus Curtius, whose capital was the Sindonalia, Sindimon, or Sindomanna of authors. One Samma dynasty was a Rajput race of Lunar origin, the opponents and successors of the Sumra. The Jharija race in Cutch are of Samma extraction. After expelling the Sumra race from Sind in A.D. 1361, the Samma retained power till they were, in their turn, expelled by the Arghun, A.D. 1521. The Samma were either of the Buddhist or Brahmanical faith. They form unquestionably a branch of the great stock of the Yadava Rajputs, and their pedigree is from Samba, the son of Krishna, who is himself known by the epithet of Syama, indicative of his dark complexion; and their first capital was Samma Nuggur on the Indus, probably the modern Sihwan, then it was Samni, and finally was established in Thatta. The Samma seem to have become proselytes to Muhammadanism about A.D. 1391; since which event their name, though it still comprises several large erratic and pastoral communities, is less

known than that of their brethren or descendants, the Sameja, and the half-Hindu Jharija of Cutch, who do honour to their extraction by their martial qualities.—*Elliot*, p. 497.

SAMOH, in Arcot, also Samudayam, TAM., the lands of a village community, held severally under periodical distribution. The Afghans on the N.W. of India call this exchange *Waiish*.

SAMOOM, Samiel, or Bad - i - Sinum, from the Arabic Sam, a poison, a pestilential wind which occurs in the desert tracts between Arabia and India. The people say it does not come in continued long currents, but in gusts at different intervals, each blast lasting several minutes, and passing along with great rapidity, but the accounts seem very greatly exaggerated. No one, they say, stirs from their houses while this flame is sweeping over the face of the country. Previous to its approach, the atmosphere becomes thick and suffocating, and appearing particularly dense near the horizon, gives sufficient warning of the threatened mischief. Though described as hostile to human life, it is so far from being prejudicial to the vegetable creation that a continuance of the Samiel tends to ripen the fruits. Porter inquired what became of the cattle during such a plague, and was told they seldom were touched by it. It seems strange that their lungs should be so perfectly insensible to what is said to be instant destruction to the health of man; but so it is said, and they are regularly driven down to water at the customary times of day, even when the blasts are at the severest. The people who attend them are obliged to plaster their own faces, and other parts of the body usually exposed to the air, with a sort of muddy clay, which in general protects them from its most malignant effects. The periods of the wind's blowing are generally from noon till sunset; they cease almost entirely during the night, and the direction of the gust is always from the north-east. When it has passed over, a sulphuric and indeed loathsome smell, like putridity, remains for a long time. The poison which occasions this smell is said to be deadly; and if any unfortunate traveller, too far from shelter, meet the blast, he is said to fall immediately, and in a few minutes his flesh becomes almost black. The Bad - i - Sinum blows in Cutch Gandava during the summer months, and many people lose their lives by it.—*Pottinger's Tr.* p. 322; *Porter's Tr.* ii. p. 229.

SAMPAN, a Chinese boat, remarkable for its swiftness both with sails and oars. When skillfully managed, they are exceedingly safe, and are sometimes employed on short coasting voyages. Two Malay rowers, each pulling a single broad-bladed oar, could in these sampans beat the fleetest gig. Chinese rowers stand up abaft their oars, and face forward. The form of the sampans and junk is of the model of a good broad-toed, broad - heeled, broad - soled slipper. — *Osborn's Quedah*, p. 4.

SAMPANDER, one of the three most famous Saiva poets and devotees.

SAMPHIRE, *Crithmum maritimum*, *Linna.*, is the real samphire. Its young leaves are pickled.

SAMPRADAYA, a sect of Vaishnava Hindus.

SAMRU, a name by which Walter Reinhardt was known, a native of Luxemburg, who came to India as a soldier in the French army. See Reinhardt.

SAMSAM, a Malay race in Kedah in the Malay Peninsula, who have adopted the religion and the language of the Siamese.—*Newbold*, i. p. 420.

SAM-SHU. CHIN. A spirituous liquor prepared by fermentation and distillation from rice.

SAM-SING. CHIN. Wax figures of men, sold in the lantern markets of China.

SAMTHAR, Samphthar, or Sumpter. Native State in Bundelkhand. Area, 175 square miles; estimated population (1875), 108,000; estimated revenue, £40,000.

SAMUDRA. SANSK. The sea, the ocean; a lake or large river.

SAMUR, a snow-white Russian fur, imported from Kابل.

SAMURAI, retainers of the Japanese daimio, who formerly wore two swords; also called Shizoku.

SAMVAT. SANSK. From Samvatsaranam, the genitive plural of Samvatsara, a year. Samvat, Sambat, or Sumbat is the luni-solar year of the era of Vikramaditya, used in Hindustan, Bengal, and Telingana. It commences with the year of Kali, age 3045, or 57 years before Christ, which latter number is to be added to any A.D. year to find the Samvat. There is nothing to show whether it dates from Vikramaditya's birth, or from some achievement, or from the year of his death. The Samvat era is supposed by Mr. Newton to have been founded by Nahapana, B.C. 56.

SAN. PERS. A year, the year of an era; San-i-jalus, the year of a king's reign. Bengali-san, beginning on the 1st of the month Baisakh 963 + 598 = A.D. 1556. The Valaita-san or Amli-san, beginning on the first of the month Aswin 963 + 592 = A.D. 1555. These eras were introduced by Akbar. San-i-jalus, the year of a king's accession, and is marked on his coins. San-Hijra is the year of Mahomed's flight from Mecca. San-Isawi is the Christian era.

SAN, a polishing wheel used by cutlers; the lapidary's wheel.

SAN. BENG., HIND. The fibre of *Crotalaria juncea*; also written Sun. This plant is often confused with the Sankokra (called Sanni in some parts), *Hibiscus cannabinus*, to which it is much superior in strength. The name is also applied to *Cymbopogon iwarancusa*.—*Powell's Handbook*, i. p. 507.

SAN, the Chaldee sun-god. Ai-Gula or Ananit was the female power of San. See Baal; Sun.

SANA or Sanaa, the most southerly division of Yemen, extending to the Arabian Sea, where it touches Aden. The Sana district includes the country round the city for half a day's journey north, south, and east. Sanaa city is situated in a deep valley, surrounded by four mountains, about 20 or 30 miles in length, and 6 or 7 miles in breadth, and about 4000 feet above the level of the sea. It is called Uzal in Genesis x. 27, and exhibits a magnificent spectacle to the eye; has the loveliest of gardens, with pomegranates, grapes, and cherries. The houses are of stone, four storeys high, with terraces to walk on in the cool of the day. A very ancient house, in ruins, is called Kasr Saum, the college of Shem, the son of Noah. The imam or prince resides in a splendid palace, built in a Gothic style, resembling a fortress. He has other palaces. Jews, in Yemen, amount to 20,000. Wolff baptized in

Sanaa 16 Jews, and left them all New Testaments.—*Wolff's Boharra*, i. p. 59.

SANA - BHIOGA. KARN., MAHE. Corruptly, Shanbogue; in revenue accounts, the village clerk who keeps the accounts of the cultivation. He is paid by a grant of land and by portions of the crop. The Sana-bhoga in the south of India are mostly Brahmans, and as village officers their office is hereditary; in some places paid by holding rent-free or lightly-taxed land, with fees from the ryots in money or in kind.

SANAKADI SAMPRADAYI, a sect of Vaishnava Hindus, founded by Nimbadiya, alias Bhaskara Charya, a Vaishnava ascetic. The objects of their worship are Krishna and Radha conjointly.—*Wilson, Hindu Sects*.

SANATORIA, in British India, is a term usually applied to designate military stations on the mountains or table-lands with climates suited to the health of British soldiers. A range of hill stations or sanatoria extend from Murree in the Panjab to Almora in the Kumaon district. These are Murree and Abbottabad, near Hazareh, in the Sind Saugor Doab; Dalhousie, on the Chamba Hills, at the head of the Bari Doab; Dharmsala, near Kangra; Simla, with its adjacent stations of Dughshai, Subathu, and Kussowlee; Mussoori and Landour, overlooking the valley of the Doon; Almora and Naini Tal, in the province of Kumaon. In the Eastern Himalaya, in Sylhet, some sites are spoken of favourably. Mount Abu is west of Rajputana; the Mahabaleshwar Hills, south-east of Bombay; Ramadrug, near Bellary; the Neilgherry and Pulney Hills in the south of the Peninsula, and Neucra Eilia in Ceylon.

Almora, in lat. 29° 35' 2" N., and long. 79° 41' 16" E., is in Kumaon, 30 miles N.N.E. of Naini Tal; and the several houses are at heights up to 5607 feet above the sea.

Chikaladah Hill in E. Berar, in about lat. 21° N., and long. 77° E., is a small, undulating table-land, 20 miles from Ellichpur, is conveniently situated for the soldiers at Kamptee; and in its vicinity, and still more suitable, is Gawilgarh Hill, 3600 feet above the sea.

Chindwara, in the Nagpur province, has been resorted to by considerable numbers of soldiers in the hot weather, and has extensive barrack accommodation.

Dughshai, 8 miles E. of Kussowlee, and 10 miles S. of Subathu; ranges from 5000 to 6000 feet.

Kussowlee, in lat. 30° 53' N., and long. 77° E., 45 miles distant from Ambala and 32 miles from Simla, is about 6400 feet above the sea; there is no table-land, and the peaks are rather steep, and pretty densely clothed with fir trees. There is a plentiful supply of excellent spring water, 700 feet below the barracks; the meat and vegetables are plentiful. The climate is temperate and agreeable, unless during the rainy season, when dense fogs make it gloomy and depressing.

Lohoghat, in the Almora Hills; unsurpassed in India for salubrity of climate and picturesque scenery.

Mussoori or Masuri adjoins Landour on the west, and consists of a series of ridges about 5 miles in extent, running almost east and west, with frequent peaks, and with spurs or shoulders issuing irregularly down to the valley of Dehra Doon on the south, and to the river Uglar or Uggulwar on the north, with deep wooded gorges

between. It was first resorted to as a sanatorium in 1823. Banog mountain, to the west, in lat. $30^{\circ} 28' 29''$ N., and long. $78^{\circ} 3' 23''$ E., rises 7545 feet above the sea. The Mussoori climate has proved advantageous in all cases of debility from climate, in dyspepsia, rheumatism, and cachectic children.

The *Neilgherries* in the Coimbatore district has several well-settled stations, at heights rising 5000 to 8000 feet above the sea,—Ootacamund, Wellington or Jakatalla, Coonoor, and Kotagherry. It has many settlers, and promises to be occupied by a European colony, but Wellington is the sole military station, and detachments from the plains are constantly located. The climate of these mountains is not useful, is even injurious, in organic diseases, in venereal affections, obstinate ulceration; in diarrhoea it is not beneficial, but is useful in debility from climate, length of residence, and to phthisical subjects.

Putney Hills in Madura are resorted to occasionally by families from Trichinopoly.

Ramandrug or *Raman-malai*, 34 miles from the town of Bellary, is not above a mile square; is within the territory of the raja of Sundur, to whom belongs the revenue of the place, derived from the land, quit-rent, and abkarry, to the extent of Rs. 757 per annum. The native population is not numerous.

The *Shevaroy Hills* in the Salem district are largely resorted to by private families, but have never been utilized as a site for troops, probably from the vicinity of the higher Neilgherry mountains in the Coimbatore district. The Shevaroy Hills rise to between 5000 and 6000 feet above the sea, and have an area of 840 square miles.

Simla, which is the chief hot-weather retreat of the Bengal civil and military officials, is in lat. $31^{\circ} 6' 6''$ N., and long. $77^{\circ} 11' 1''$ E., has a series of heights varying from 6500 to 8000 feet.

Subathu, 9 miles from Kussowlee, on the road to Simla, is at 4000 feet of elevation.

SANCHI, a small village situated on a low ridge of a sandstone hill, on the left bank of the Betwa, 20 miles to the N.E. of Bhopal, and about 54 miles S.W. of Bhilsa. About the beginning of the Christian era, it was the capital of a kingdom called Sanaka-nika, and is famous as the site of some of the most extensive and remarkable Buddhist remains in India, the centre of the great group described by General Cunningham under the name of 'The Bhilsa Topes.' The principal buildings which now remain occupy only the middle part of the level top, and a narrow belt leading down the hill to the westward. They consist of one great stupa or tope with its railing and other adjuncts; about ten smaller stupas, some now showing nothing more than the foundations; a stone bowl, 4½ feet in diameter and 2½ feet deep, supposed to have once contained Buddha's holy nettle, and other objects of antiquarian interest.

It is narrated in the Mahawanso, that Asoka when on his way to Ujjain, of which place he had been nominated governor, tarried some time at Chityagiri, or, as it is elsewhere called, Wessanagara, the modern Bianagar, close to Sanchi. He there married Devi, the daughter of the chief, and by her had twin sons, Ujjenio and Mahindo, and afterwards a daughter, Sanghamitta. The two first named entered the priesthood, and played

a most important part in the introduction of Buddhism into Ceylon.

The ruins at Sanchi are those of a stupa, and not a dhagoba. The ruins called No. 2 tope contained the remains of ten Buddhist teachers who took part in the third great convocation held under Asoka, and some of whom were sent on missions to foreign countries to disseminate the doctrines then settled; No. 3 tope contained two relic caskets. One of these enclosed relics of Maha Moggalana, the other of Sariputra, friends and companions of Buddha himself, and usually called his right and left hand disciples. The Buddhist tope is believed to have been erected by king Asoka B.C. 250, an age when the use of stone in buildings was in its infancy, beginning to replace wood, whose forms of construction the tope was made to imitate.

Three forms pervade all the monuments of both Sanchi and Amravati:—(1) Topes or stupas, mound-like buildings erected for the preservation of relics; (2) Chaityas, which, both in form and purpose resemble early Christian churches; (3) Viharas, residences of priests and monks attached to the topes and chaityas. The topes at Sanchi form part of a great group of such monuments, extending over a district of 17 miles, and numbering 40 or 50 tumuli. The great tope consists of an enormous mound, built in the following manner:—First, a basement 121 feet in diameter and 14 feet high; on the top of this a terrace or procession path 5 feet 6 inches wide; within this rises the dome, a truncated hemisphere 39 feet high, originally coated with plaster. On the top of the dome is a level platform measuring 34 feet across; within this was a square relic box, of sixteen square pillars with rails, and, over all, a circular support for the umbrella which always crowned these monuments. But the most remarkable feature of the building is the rail, which surrounds it at the distance of 9 feet 6 inches from the base, and consists of 100 pillars 11 feet high, exclusive of the gigantic gateways. These gateways are covered with the richest and most fantastic sculptures, both in the round and in bas-relief. About one-half of their sculptures represent the worship of trees or of dhagobas (relic shrines); others represent scenes in the life of Buddha, and others again ordinary events, feasting, concerts, etc. Mr. Fergusson considers these sculptures superior in merit to those of Egypt, but inferior to the art as practised in Greece. The sculpture at Sanchi are the more rude and vigorous. Those at Amravati are on a scale of excellence, 'perhaps nearer to the contemporary art of the Roman empire under Constantine than any other that could be named, or of the early Italian renaissance.'

Two races may be readily distinguished as depicted in the sculptures. First, the Hindus, originally pure Aryans, though of mixed blood at the age of the sculptures, evidently the dominant race. The men wear the dhoti and turband; the women are covered with jewels, but otherwise nude. This last is a feature found elsewhere. The second race wore kilts and cloaks, and (most marked peculiarity) are represented with beards, which the Aryans never wear. The women wear neat and decent dresses and no ornaments. These would appear to be the aborigines of the country.

—*Imp. Gaz.* viii.

SANCTUARY.

SANCTUARY, a place of refuge or safety. These have been established in most countries, to allow of alleged criminals and debtors escaping from immediate punishment, and so admit of leisurely examination into the merits of their case. In one of these, in Rajputana, whatever life, whether man or animal, passed their abode for the purpose of being killed, was saved (*amra*). 'Traitors to the state, robbers, felons escaped confinement, who may fly for sanctuary (*sirna*) to the dwellings (*upasra*) of the Yati, shall not there be seized by the servants of the court.' In Persia, Turkish Arabia, the Muhammadans have several sanctuaries. In most of the cathedral towns of Europe there were until lately places of this kind, and the Broad Sanctuary of Westminster in London still bears the name. See *Bast*.

SANCU. SANSK. A gnomon for astronomical purposes. The pillars which are erected in front of every pagoda are real gnomons.

SAND.

Raml,	ARAB.	Arensi,	It., Sp.
Zand,	DUT.	Arena,	LAT., PERS.
Sable,	FR.	Areia,	PORT.
Balu, Reti,	HIND.	Pesok,	RUS.

Showers of sand fell in China on the 26th March 1850, and lasted several days; about ten grains to the square foot collected in one day, or about eighteen tons per square mile. Such showers are frequent,—three occurred in 1850; the natives believe that the dust comes from the desert of Gobi. Mr. J. Alexander mentions that on the 29th March 1821, when in lat. 11° 3' N., and long. 22° 5' W., 300 miles from the African coast, sand was blown on to the rigging of the ship.—*Jan. Ed. Journ.* vii. p. 491.

SAND. HIND. A bull liberated by Hindus on ceremonial occasions, and allowed to wander at will.

SANDA, a sort of lizard in Ajmir. It is distilled, and the product applied by Muhammadans to the penis; the reptile is also eaten as an aphrodisiac.—*Gen. Med. Top.* p. 151.

SANDACRES, districts in Ceylon which differ from those called *Putana* in being studded with groups of timber trees of majestic dimensions.—*Tennent*.

SANDAL, a ceremony; an embrocation of sandal-wood.

SANDAL-WOOD.

Sandel-abiak, . . .	ARAB.	Sandel-holz, . . .	GER.
Chandana, BENG.,	SANSK.	Sandalo, It., Sp.,	PORT.
Ka-ra-mal,	BURM.	Shandana,	JAP.
Sanda-ku, Ka-ra-moi,	CHIN.	Sandal safed, . . .	PERS.
Sri-gunda,	CAN.	Sandaloe dereos, . .	RUS.
Peh-chen-tan, . . .	CHIN.	Sandan,	SINGH.
Tan-hiang, Tan-muh,	CHIN.	Sandel trad, . . .	SW.
Kayu-yndan, COCH.	CHIN.	Chandanani, . . .	TAM.
Sandelfree,	DAN.	Chandanapi, . . .	TEL.
Sandel-hout, . . .	DUT.	Tsandan,	TIB.
Sandale, Santal, . .	FR.		

Ayasa, Ayasru, . .	AMBOIN.	Ahi, Eimeo, . . .	TAHITI.
Iyaru,	FJIJ.	Aika nanil, . . .	TIMOR.
Nasau,	N. HEB.	Turi-Turi, OPARO	ISLANDS.
Nebisi, TANNA ISLANDS.		Sarpa-bridaya, . .	SANSK.
Hun-nhi,	MARQUESAS.	Mala-yaja,	"
Hiahi, SANDWICH ISLANDS.			

Many of the synonyms for this wood have been derived from the Sanskrit, the letters ch of that tongue being converted into s and ts. One kind is the produce of a small tree, *Santalum album*, growing in India and Ceylon, which gives its title to the natural order of plants called *Santalaceæ* or sandal-woods. The sandal-wood of the Sand-

SANDAL-WOOD.

wich Islands is from two other species of the same family, *S. Freycinetianum* and *S. paniculatum*; but *S. Freycinetianum* has been so recklessly cut down in the islands of the South Seas that it has almost disappeared. The *Myoporum tennifolium*, or spurious sandal-wood tree, grows in elevated situations, attains to 15 or 20 feet in height and 3 or 4 feet in circumference. Its scented wood varies from yellow to red, according to the age of the tree, and is used for planes. A white sandal-wood, termed *lava* or *lawa*, is imported into Bombay from Zanzibar, and is applied to the same purposes as Mysore sandal-wood.

Another spurious kind is from the *Exocarpus latifolia* of the Percy Islands, Cape Upstart, the Palm Islands, Repulse Bay, etc., and in India the wood of the *Plumieria alba* is fraudulently mixed with the billets of the true sandal-wood. In the year 1881-82, the value of the exported sandal-wood from India was Rs. 3,98,284, and in 1882-83, Rs. 4,02,031.

Coorg sandal-wood sells at Rs. 180 to Rs. 425 the ton. That of Mysore is of excellent quality, and there the tree has been strictly conserved since the middle of the 19th century. Up to 1875-76, five sandal-wood plantations had been formed in Mysore. The Mysore revenue from sandal-wood (1055 tons) in that year was Rs. 2,87,132. Good wood was sold at Rs. 372, and inferior wood at Rs. 143 per ton. The tree is cut down when about 9 inches in diameter at the root; it is then cleared of its bark and cut into logs, which are buried for six weeks or two months in order that the white ants may clear off the outer wood; this they do most effectually, without touching the heart of the tree, which is the only valuable part. Two kinds of this wood are, however, known in commerce,—the white and the yellow; both are from the same tree, the former being the outer layers of the wood.

The odour of sandal-wood is very strong, rose-like, and enduring; its taste slightly bitter. The odour is due to the presence of an essential oil, heavier than water, readily congealed, and having a peculiar sweet smell. The deeper the colour, which is of a yellow-brown, and the nearer the root, the better is the perfume. The Chinese imported an amount of sandal-wood in 1838 worth about 150,000 dollars. From Timor and the Fiji islands China derives her chief supply. The natives of Yap, the Isle of Pines, and Marce traffic with ships for the sandal-wood. Timor is the only country in the Eastern Archipelago which produces it in any quantity. That of Bonin Island is of excellent quality.

The oil is employed by the European perfumers, and in India is very extensively used for the adulteration of attar of roses. The wood in powder is given by the native physicians in ardent remitting fevers, and is supposed to be sedative and cooling; with milk it is also prescribed in gonorrhœa. The Chinese consume it largely as a fancy wood, and by them it is often elegantly carved. By the Chinese it is ground into powder and used as a cosmetic. The powder is rubbed on the skin to allay the irritation of mosquito bites, of prickly heat, and other cutaneous disorders. The wood is a preservative against insects, and is much used in making work-boxes, walking-sticks, pen-holders, and other small articles of fine ornament. It is much used in

SANDARACH.

India and China for burning in temples, is extensively employed as a fuel in the funeral ceremonies of the Hindus. Its bark gives a most beautiful red or light claret-coloured dye, but it fades almost immediately when used as a simple infusion. In the hands of the experienced dyer, it might, it is supposed, be very useful. — *G. Bennett*, p. 419; *Tomlinson*; *Tredgold*; *Ainslie*; *Crawford*; *M. E. J. R.*; *Macgillivray's Voyage*, i. p. 97; *Bombay Forest Reports*; *Report of Madras Forests*; *Poole*, *St. of Comm.*

SANDARACH, Sandrac, Sandarach.

Sundroos, Zoos, . ARAB. | Yun-hiang, . . . CHIN.

A resinous substance met with in round or elongated tears, of a whitish or pale-citron yellow; brilliant, transparent, and limpid, brittle under the teeth, burns with a clear flame, and emits a pleasant odour; taste resinous, and slightly balsamic. It is used as an ingredient in varnishes and incense; when reduced to a powder, it forms the article term pounce. Sandarach is obtained from Morocco, according to Brongniart and Schousboe from the *Callitris quadrivalvis*, a coniferous tree, which in Barbary is called the arar tree, and attains a height of from 15 to 20 feet. It was discovered by Desfontaines on Mount Atlas in 1796. Dr. Lindley had seen a plank two feet wide of this sandarach tree. The wood is considered by the Turks indestructible, and they use it for the ceilings and floors of their mosques. The citrus wood of the Romans, extravagantly prized for tables, is supposed to have been the *Callitris quadrivalvis*, *Vent.*, or jointed arbor vitae. The wood was distinguished as striped, tigrinæ; spotted, pantherinæ; or speckled, apiatæ. Cicerone gave £9000 for a citrus wood table. The common junipers secrete a similar resin. — *Faulkner*; *Tomlinson*; *O'Sh.*; *Poole*; *Hogg*; *Smith*.

SAND-BINDING PLANTS are growing naturally all along the sea-shores of British India, and in the tracts on the margin of the Indian desert; but more could be done to prevent the sands being blown from the deserts and from the gulf between Ceylon and Peninsular India, and from the shallow beds of its many rivers. Bremon-tier, by planting the Landes of Gascony with the cluster or pouch pine (*Pinus pinaster* or *P. maritima* of botanists), recovered 100,000 acres from the blown sand.

This class of plants has been largely utilized in Australia, and Baron von Mueller enumerates sixty genera, which he recommends to be so employed; among them species of *aloe*, *carex*, *casuarina*, *cynodon*, *opuntia*, *spartina*, *spinifex*, *stipa*, *tamarix*, and *yucca*.

Spinifex squarrosus, *Linn.*, known to Europeans by the designation of ground rattan and sea pink. The Tamil name, Ravan mise or Maha Rawana and Ræwula, i.e. whiskers of Ravana, is a descriptive epithet. It comes near to the sand *carex* of England in its habit of growth, creeping along horizontally, sometimes above, sometimes below the surface of the earth, emitting roots and shoots at intervals of a few inches. It is extremely tenacious of life, the shoot at every node being capable of renewing the existence of the individual as fast as destroyed, and the whole plant offers a resistance to the effects of a storm, which is rarely overcome. This species would be nearly as indestructible from natural causes as couch grass, and would speedily colonise the

SAND-BINDING PLANTS.

sand tracts spontaneously, if it were only left unmolested for a year or two.

Ipomœa pes-capræ, *Sweet*. Mosul taylie, TAM. Goat's-foot-leaved ipomœa, or rabbit weed, is perennial, creeping to a very great extent. Stems rooting at distant intervals. Leaves smooth, long-petioled, two-lobed, like those of *Bauhinia*, tipped with a neacore. Flowers large, reddish-purple, very handsome. This fine creeper is equally abundant in both Peninsulas of India, is also a native of Mauritius, Macao, etc., occupying the place of *C. soldanella* of the British coast, and a more striking and beautiful species of the tropical bindweeds is rarely seen. Rabbits, goats, and horses eat it, so do cows, but their milk is tainted. Great difficulty occurs in raising this plant in the vicinity of houses, as the inhabitants tread it down, and cattle nibble the tender shoots. It naturally takes a higher position on the sand-band than the spinifex, and suffers less injury during a storm; but they often grow together, and conjointly effect much benefit. The spinifex arrests the drifting sand, and the ipomœa secures what the former collects. Mr. Caddell planted it extensively along the canal banks near Tranquebar.

Canavalia obtusifolia, *D. C.* Koyli avaree, TAM. Common on the sea-shore, frequently entwined with the *Ipomœa pes-capræ*. It is a very useful plant, very abundant at the Adyar, Ennore, the mouth of the Godavery, and between Quilon and Anjengo.

Hydrophyllax maritima, *Linn.*, the Mudugaeta kola of the Singhalese, literally jointed sea-shore plant, a straggling herbaceous plant, native of the shore of Coromandel, where it shows its pale lilac blossoms great part of the year. The branches run over the sand, sometimes under the surface, and strike root at the joints. It answers well when the sand is moist.

Microlychnus sarmentosus, *Wight Ill.*, is a widely-diffused humble plant, common along the sea-beach, with long flagelliform runners.

Ipupalia orbiculata, *Wight*. *Achyranthes orbiculata*, *Heyne*. | Adai yotti, . TAM. *Cyathula orbiculata*, *Moquin*.

Grows on sandy soils near the sea-beach, abundant at St. Thome and near the mouth of the Adyar river. It is an extensively-spreading procumbent plant, the branches being often several feet long; bristles attaching themselves to the clothes of passengers, cling to them with tenacity.

Pandanus odoratissimus, *Linn.*, the kaldera bush, Taylie maram, TAM., is a large spreading ramous shrub, often planted in belts, but takes up much room, forms dense thickets, and harbours venomous reptiles. The lands in which clay root is cultivated are often protected from drift sand by means of this shrub. It is a very strong binder, but is objectionable from its raising sand-hills.

Ehretia arenaria, *Griffith*, is found between lat. 12° and 28° N., binds together loose sand in a minor degree. It may be the same as *Ehretia cuneata*? *W. Icon.* iv. t. 1385, which grows on sandbanks in the beds of all the rivers of the Western Peninsula of India.

Pedaliu murex, *Ipomœa pes-tigridis*, and *Sesamum prostratum*, etc., co-operate in the work of conservation to a minor extent, but are less widely diffused along the coast; also *Fagraea Coromandellia*. Trees such as the cashew

SAND-BOX TREE.

(*Anacardium occidentale*), the Alexandrian laurel (*Calophyllum inophyllum*), and the wild date (*Phoenix sylvestris*) grow well, and render a double service by preventing a further encroachment of sand, and rendering the land useful. In Ceylon, the glass-worts, *Salicornia Indica*, and salt-worts, *Salsola Indica*, are the first to appear among the newly-raised banks. *Ipomoea pes-capræ* abounds on the shores, also *Canavalia obtusifolia*, *Dolichos luteus*, and the *Hydrophyllax maritima*. A little above high-water mark is, likewise, the *Aristolochia bracteata*, the *Hedyotis umbellata*, Sayan; also *Choya*, SINGH.; *Gloriosa superba*, *Vistnu karandi*, TAM., or *Lippia nodiflora*.—*Dr. Cleghorn*; *Sir J. E. Tennent*; *Von Mueller*; *Prof. Rolleston*, p. 16.

SAND-BOX TREE, *Hura crepitans*. Chiefly remarkable for the violence with which the ripe fruit opens to discharge its seeds, often with a report like that of a pistol.

SANDERS-WOOD. Red Sanders-wood.

Sundun,	ARAB.	Ruttunjee, GUR., HIND.
Sund-ul-Ahmîr,		Sandalo roso, IT.
Honnay,	CAN.	Sundul-surkh, PERS.
Sandel-hout,	DAN.	Buckum, "
Ial-chundun,	DUK.	Rakta-chandana, SANSK.
Red wood,	ENG.	Ranjana, "
Ruby wood,		Sigapoo shandanum, TAM.
Santale rouge,	FR.	Ku-chandanum, TEL.
Sandal-holz,	GER.	

The sanders-wood or red sanders-wood of commerce is the product of a large useful timber tree, the *Pterocarpus Santalinus*, found in Malabar, Mysore, Ceylon, near Madras, in the Pulicat and Tripaty Hills, Malay Peninsula, and Timor. The wood is extremely hard, of a fine grain, and a bright garnet-red colour, which brightens on exposure to the air. It is employed to dye lasting reddish-brown colours, the concentric circles being divided by dark lines. It communicates a deep-red to alcohol, but gives no tinge to cold water. It is principally shipped to England from Calcutta in logs from 2 to 10 inches diameter, generally without sap, and sometimes in roots and split pieces; it is very hard and heavy; it is very much used as a red dye-wood, and often for turning. The logs are often notched at both ends, or cut with a hole as for a rope, and much worn externally from being dragged along the ground; other woods, as also indeed ivory tusks, are sometimes thus perforated for the like purpose. With different mordants, it yields various shades of red; these are said to be little permanent. This wood is largely exported from, but little used in, Madras. The Madras exports for 1854 amounted to 47,431 cwt., value 59,570 rupees.—*M. E. J. R.*; *Tredgold*.

SAND-GEMS, or *Ava gem* sand, comes from the neighbourhood of Ava, and is sometimes one of the Shan articles of merchandise. It consists of small fragments of nearly all the precious stones found in the country; but garnet, beryl, and spinel are its principal constituents, more especially the last, which seems to constitute nearly three-fourths of the whole mass. A single hand-ful will contain specimens of every shade,—black, blue, violet, scarlet, rose, orange, amber-yellow, wine-yellow, and white.—*Mason*.

SAND GROUSE, the *Syrhaptidae*, *Blyth*, and *Pterocidae*, *Jerdon*, are also known as the rock grouse and rock pigeon. They are birds of rapid and powerful flight. The Indian species are *Pterocles arenarius*, *Pallas*, *Pt. fasciatus*, *Scopoli*,

SANDSTONE ROCK.

Pt. alchata, *Linn.*, *Pt. exustus*, *Tenn.*, and *Pt. Senegallus*, *Linn.*, the last being of Africa and Arabia, and it is said also of Sind. The Tibetan sand grouse, *Syrhaptus Tibetanus*, *Gould*, repairs in large flocks to drink at the fresh-water springs. The plumage of both sexes is much alike, but the long tail of the male is distinctive.—*Adams*.

SANDHARA. HIND. Cutlers in Hindustan, who profess to have come originally from Marwar, and to be related to the Rajputs. Muhammadans who pursue the same avocation are called *Saikalgar*.

SANDHEADS, a maritime term applied to the seaward islets of the delta of the Hoogly, nearest the Bay of Bengal.

SANDHI, a form of conjunction of words in Sanskrit, and in those words of the Telugu language derived from Sanskrit, and is a systematic element in grammar.

SANDHI or *Sandhya*. SANSK. The twilight or crepuscle. The *Sandhya* of Brahma consists of 1,728,000 solar sidereal years, the same duration as the *Krita* or *Satya-yug*, which quantity is used in its double capacity for constructing the *Kalpa*. *Pratas sandhya*, the morning twilight; *Sayam sandhya*, the evening twilight. The twilight of each *yug* is equal to 1-6th part of the same.

SANDHYAVANDANUM, three prayers by Brahmans, at sunrise, noon, and sunset.

SANDILYA, a celebrated Hindu teacher of the doctrine that the self within our heart is *Brahma*.

SANDLASA. HIND. A flat circular stone on which sandal-wood is ground.

SANDORICUM INDICUM. *Cuc.*

<i>Trichilia nervosa</i> , <i>Vahl.</i>	|	<i>T. venosa</i> , <i>Spr.</i>
<i>Melia koetjape</i> , BURM.	|	False mangosteen, ENG.
<i>Theit-to</i>, . . . . . "	|	Wild mangosteen, "

This elegant timber tree grows to a large size in Burma, the south of India, Mysore, Penang, the Moluccas, and Philippines. It is scarce in the forests of British Burma, but is large and plentiful near all villages both in the Rangoon and Toungboon districts, where it is cultivated by the Burmese for its fruit, which is of the size of an orange, and has a fleshy acid pulp. The wood is white-coloured, and adapted to every purpose of house-building. The pulp of its fruit is eaten raw by the natives of Tenasserim, who esteem it as excellent. It is watery and cooling, and makes a good jelly, but this has a peculiar odour. Its root is bitter, and used in medicine in bowel complaints.—*Roxb.* ii.

SANDOWAY (*Than-dwai*), a British district in the Arakan division, British Burma. Area, 3667 square miles; population (1872), 54,725 souls. The town is situated in lat. 18° 27' 85" N., and long. 94° 24' 36" E., on the Sandoway river, about 15 miles from its mouth.

SANDRACOTTUS of the Greeks, king of Magadha, was a contemporary of the early successors of Alexander. He was the Chandragupta of the Indians, who founded a new dynasty, and he was grandfather of the Asoka who reigned B.C. 250, the Constantine of Buddhism, the first who gave that religion supremacy in India.

SANDSTONE ROCK occurs in most countries, an aggregation of sand by a sort of semification, as in quartz rock and in common gritstone, adjoining trap dykes or great faults. In many of the white sandstones the grains merely cohere together. Some sandstones are in the laminæ, plane, waved, or slightly concentric; these admit

of being readily split. The freestones are not distinctly laminated, the grains being so arranged as to present equal resistance in every direction. They work freely under the stone saw and the ordinary picks and chisels. They can also be turned into balustrades, pedestals, and vases. In the East Indies, sandstones occur of different qualities, from the coarsest soft grit to the hardest freestone, the most compact snakestone, and the toughest chert.

The sandstones of the Kymore range in the Vindhya have a high commercial value at Partabpur, Chunar, and Mirzapore, being used as flagstones and for ornamental purposes. The proximity of the Ganges affords an easy river carriage. They are in general fine-grained, and of reddish-yellow or greyish-white colours.

In the upper Bhaner series are two varieties of excellent building stone,—one dark-red, sometimes quite unspotted, sometimes streaked and dashed with yellowish-white spots; the other is a yellowish-white, very fine-grained rock, perfectly homogeneous both in texture and colour.

Flexible sandstone is found in Ulwar, at Dadri, in Jheend, and at Jubbulpur. It is called Sang-i-larzur, i.e. shaking stone, and is obtained from the Kalyana Hill in the pargana Dadri; it is used for roofing and for ornamental pillars. Sandstones also occur at Sahi Balagarh, in the hills to the south-west of Delhi, also at Kulcenna at Rohtak; and the palace at Delhi and great mosque are of red sandstone.

The monoliths known as lat'has afford the earliest examples of the uses to which the sandstones of N. Hindustan were applied (see Lat), and the first stone temples seem to have been erected about the 2d century B.C.

The millstones of Chynepore, Sasseram, and Tilowhoo, perhaps also Akbarpur, are famous. The Sone causeway and the Koyliwan railway bridge are built of the dense sandstone of Sasseram, and little quantities of it are found in the higher portions of the range towards Rohtas. The best stone, while easily workable, is almost as hard as granite, and may be had of any colour, viz. white, crystalline, blue, grey, and all shades to a dark red.

The ghats of Benares, its palaces, walls, minarets, and many temples, are built of sandstone, and St. John's Church, Calcutta, is built of Chunar stone. The Vindhyan sandstones near Gwalior have been used to construct forts, temples, etc.; and on the cliffs are some figures of Titanic dimensions.

The upper Bhaner formation has quarries to the south of Bhartpur, Futtelpur Sikri, and Rupas. Portions of the Taj at Agra, Akbar's palace at Futtelpur Sikri, the Jaina Masjid at Delhi, and buildings generally in Agra, Delhi, and Muttra (Mathura), and the palace of the raja of Bhartpur, have drawn on these quarries for the materials used. The Jain temples and railway bridges at Barakar are built of sandstones of the Gondwana series. The caves of Sirguja and Chang Bakhar are in the Gondwana sandstone. They have inscriptions in the old Pali character.

The Tawa viaduct is built of sandstones of the Jagra group of the upper Gondwana series. In the Jubbulpur station is a very dense sandstone which has been largely used locally, and the viaduct over the Nerbadda below Jubbulpur has

been built with it. The sandstones and flag-beds of the Rajmahal series are occasionally employed for local building purposes. The jurassic rocks of Cutch, the cretaceous sandstones of the Bagh beds, those of the eocene series at Dagahai, Kasali, Subathu, and Dharmasala, afford good building material, at the latter place of a grey colour. The quartzite of the Satuma Hill in Manbhumi has been used in Calcutta for paving and coping.

The compact sandstones at Conjeeveram are easily dressed. The whole of the valley of the Kistna and great parts of the valleys of its affluents, the Gutpurba, Malpurba, Bhima, Tungabudra, and Tumbudra, and much of the valley of the Godavery and of the valleys of its northern affluents, have limestone, clayslate, and sandstone rocks, and the houses and more extensive buildings are all built of these. The limestone of Kurnool, west to the Bhima, is an excellent building material. Soft sandstones resembling bathstone and tripoli abound near Nellore, Bellary, Cuddapah, and Hurryhur. Sandstones suited for grinding purposes are obtained in Cuddapah; at Chellamacoar, a greyish-brown schistose granular sandstone; near Cuddapah there is bluish-grey compact magnesian limestone, suited for fine sharpening stones; from Woottimitta, fine-grained schistose sandstone, suited for a ragstone. In Guntur, at Palnaud, are purple and lilac-slaty sandstones fine in grain, honestones, black limestones, and lithographic marbles. From Gootemookoola and Dyda, bones from Koopokoonda, 8 miles west of Vinacondah, below the signal pond; rough sandstone glistening with mica. From Mawor Hill, schistose ragstone.—*Powell's Handbook*, pp. 35-56; *Mad. Ex. Jwr. Report; Reports and Catalogues of Govt. Cent. Museum, Madras; Tomlinson*.

SANDWIP, an independent Native State in the Ceded Districts of the Peninsula of India; area, 140 square miles. The founder of the family was Mahaji Rao Ghorpara, an officer in the army of the Bijapur king. The sanatorium of Ramanmalai is 3150 feet above the sea. On the plateau there is a tribe of Bedars, and the temple of Kumaraswami is on an adjoining hill. The hills are about 15 miles long, running from south-east to north-west, ending abruptly near Hospet. This range forms the greater part of the western boundary of the native state.

SANDWIP ISLAND, in the Bay of Bengal, is situated off the coast of Chittagong and Noakhali, in lat. 22° 24' to 22° 37' N., and long. 91° 22' to 91° 35' E. It is the largest of many chars or islets formed by the Megna as it enters the sea. From its low-lying position, Sandwip is peculiarly exposed to inundation from storm-waves, and suffered severely in loss of life and property by the cyclones of 1864 and 1876. On the latter occasion, the number of deaths was officially estimated at 40,000, out of a total population of 87,016, and cholera set in soon after the cyclone had passed over.

Cæsar Frederick, the Venetian traveller, in 1565 described the inhabitants as 'Moors,' and stated that the island was one of the most fertile places in the country, densely populated, and well cultivated. Purchas (circ. 1620) states that most of the inhabitants near the shore were Muhammadans. Sir Thomas Herbert (circ. 1625) describes it as one of the fairest and most fruitful spots in all India.

In 1616, Sandwip was taken from the Portuguese by the Arakanese. In 1665, Shaista Khan, the Muhammadan nawab of Bengal, determined to reconquer the island, and an interesting account of his expedition has been given by the French traveller Bernier.—*Imp. Gaz.* viii.

SAN-FA-SHI, the name applied by the Chinese pilgrim Hiwen Thsang to the Vriji' country, which he also calls Fo-lo-shi. San-fa-shi or Samvaji is the Pali form of Samvriji, or the 'United Vriji,' from which General Cunningham infers that the Vriji were a large tribe which was divided into several branches, namely, the Lichhavi of Vaissali, the Vaidehi of Mithila, the Tirabhukti of Tirhut, etc. Either of these divisions separately might therefore be called Vriji, or any two together might be called Vriji, as well as Samvriji, or the 'United Vriji,' as is the case with the warlike tribe of the Bagri or Sambagri of the Sutej, which consisted of three separate divisions. He is of opinion that Vaissali was a single district in the territories of the United Vriji or Vajji. Kesariya is an old ruined town, 30 miles to the north-north-west of Vaissali. The place possesses a mound of ruins with a lofty stupa on the top, which the people attribute to Raja Vena Chakravarti. In the Puranas also, Raja Vena is called a Chakravarti, or supreme monarch. General Cunningham found his name as widely spread through Northern India as that of Rama or the five Pandu.—*Cunn. India*, p. 446.

SANG. PERS. A stone; but used as a prefix to designate mineral earths, stones, minerals, gems, fossils, compounds used in the arts or in medicine.

Sang-i-abri, a mottled brown and yellow stone.

Sang-i-akik, cornelian.

Sang-i-asahar, a form of silica.

Sang-i-asyum, milstone grit.

Sang-i-basri, a slag or dross of copper in tubular pieces; from Basorah (Basrah), where it is collected at the mouths of the chimneys of copper furnaces.

Sang-i-birinj, of the Dizful, an important stream in Khuzistan. The bed of an occasional torrent in ancient Susiana, called Ab-i-bald, falls into the Dizful, is covered with a pebble filled with little fossil shells resembling grains of rice. These stones are also found in the river at Shuster, but of an inferior quality, and they are in much request throughout Persia for the head of the Nargil pipe, which is almost invariably composed of this material set in silver.

Sang-i-chamak, massive magnetic iron-ore.

Sang-i-dallam, fire-clay procurable at Streepernatur, Tripasur, Chingleput, Metapollam, and Cuddapah, and in many parts of India; and bricks can be made that resist the action of great heat. A clay is found at Bypore 20 to 30 feet below the surface, and is used for fire-bricks and for lining furnaces.

Sang-i-irnali, a fossil.

Sang-i-jahanam, lunar caustic?

Sang-i-jarahat, sulphate of lime, steatite, and other minerals.

Sang-i-kara, hornblende rock.

Sang-i-kharas, fossil encrinite.

Sang-i-larzan, flexible sandstone.

Sang-i-marjan, coral.

Sang-i-mar-mar, marble.

Sang-i-mohab, also tambara, garnet.

Sang-i-miari, a red and white stone, imported via Pulli, is used as an aphrodisiac; one tola for one anna.

Sang-i-musa, hard clayelate, syenite, granite.

Sang-i-palan, French chalk or steatite, used for making crucibles; qu. sang-i-dalan?

Sang-i-pathani, bloodstone.

Sang-i-rasak, copper-dross, a mixture of metallic copper with organic matter; obtained during the process of melting copper and brass.

Sang-i-sabz, green earth.

Sang-i-sar-i-mahi, small fossil shells; also a con-

cretion from the head of a fish, comes from Dehli, used as an aphrodisiac. Sold at 8 annas a tola.

Sang-i-shadnsj, fossil nummulite.

Sang-i-sitara, aventurine.

Sang-i-Sulaiman, onyx.

Sang-i-yamani, bloodstone.

Sang-i-yushm, jade.

—*Genl. Med. Top.* p. 152; *Cheaney; Powell.*

SANG, in Baluchistan, a reciprocal contract or promise. In the wedding ceremonies, a few days after the conclusion of the Sang, a prepared entertainment is made sufficiently large to include the whole khel, provided the young man's condition in life will admit of his going to that expense. It happens not unfrequently that the Sang is entered into before the girl is marriageable. So soon as the girl arrives at proper age to take upon herself the duties of a wife, the Uroos or marriage ceremony is performed by a Mullah.—*Pottinger's Tr.* p. 68.

SANG, a spear or javelin, formed wholly of iron, carried by fakirs; also a war lance, 10 feet long, covered with plates of iron about 4 feet above the spike. A sirohi is a sword made at the town of that name, famous for its temper.—*Tod's Rajasthan*, ii. p. 118.

SANGA. HIND. A breastwork; also a wooden bridge in the Himalaya, made by projecting timbers from the banks, one above another, until they nearly meet, on which they are connected by a plank laid across. In the N.W. Himalaya, and in Afghanistan, the Sang or Sangara is a stone parapet erected for defence.

SANGALA, ruins in Jhang district, Panjab, standing on a small rocky hill upon the border of Gujranwala district, now known as Sanglawala Tiba, and identified by General Cunningham with the Sikala of the Brahmans, the Sagal of Buddhism, and the Sangala of Alexander's historians. The earliest notice of the locality occurs in the Mahabharata, where Sakala figures as the capital of the Madra situated upon the Apgua rivulet, west of the Iravati or Ravi, and approached from the east by pleasant paths through the Pilu forest. The neighbourhood bears the name of Madr-des to the present day. Arrian, Curtius, and Diodorus all notice Sangala, 'a great city, defended not only by a wall, but by a swamp,' which was deep enough to drown several of the inhabitants who attempted to swim across. Alexander seems to have turned out of his direct line of march to punish the Kathwans of Sangala, who had withheld their allegiance. He stormed the outpost of Munda-ka-puro, crowded with fugitives from other cities, and then, breaching the walls by means of a mine, captured the town by assault. The Arashtia were the republican defenders of Sangala. They are the Adraistae of Arrian, who places them on the Ravi. They were known by the several names of Bahika, Jartikka, and Takka, from which last is the name of their old capital of Taxila or Takka-sila, as known to the Greeks. The people still exist in considerable numbers in the Panjab Hills, and their alphabetical writing characters, under the name of Takri or Takti, are now used by all the Hindus of Kashmir and the northern mountains from Simla and Subathu to Kabul and Bamian.—*Elliot.*

SANGAM. SANSK. The fork or point of confluence of two or more rivers, always sacred to Siva Mahadeva; also a union, wedding, or marriage.—*Tod's Rajasthan*, i. p. 16.

SANGARA, the occupants of the island of Beyt in the time of Alexander. They were even then daring, reckless pirates.

SANGATILAR. TAM. A syndicate, a collegiate body.

SANGCHA. HIND. Nummulites, obtained on the Mazari Hills, at Dehra Ghazi Khan, and at Inam Bakhsh Khan. They are priced at 32 seers per rupee. See Sang.

SANGERMANO, an Italian priest of the Romish Church, who was a missionary in Burma in the early part of the 19th century; author of a cosmography.

SANGHA, with Buddha and Dharma, the Buddhist triad.

SANGHAMITTA, daughter of king Asoka. She followed her brother Mahinda to Ceylon, where he had preceded her a few years as the first Buddhist missionary to that island. She brought with her from Buddha Gya, B.C. 245, a cutting of that Bo Tree, *Ficus religiosa*, which is still growing in Ceylon.

SANGHAYA. SINGH. A Buddhist priest of an inferior order.

SANGI. TAMIL. An honorary titular designation, equivalent of Iyer, but added after that title.

SANGIR or Sanguey, an island on the N.E. of Celebes, extending from lat. 3° 21' N. to lat. 3° 16' N. Sangir and the numerous islands of its group in the Celebes occupy a superficies of 13 square leagues; the Tolaut and the Meangis islands united are 18 square leagues. These archipelagoes, formerly subject to the authority of the Sultans of Ternate, now make part of the Dutch residency of Menado. Several extinct volcanoes, and some still in full action, are found in the Sangir group; the devastations which they commit from time to time have often been fatal to the inhabitants. The eruption of Duwana in 1808 completely annihilated the village of Tegaland, destroyed all the surrounding forests, and suddenly deprived the inhabitants of all means of livelihood by the destruction of their fields. The Gunong Api or fire mountain causes numerous ravages in the island of Siau. Its peak, 6000 feet above the level of the sea, forms the culminating point of this group. Gunong Api covers with its base all the northern part of Sangir-besar; in 1812, the torrents of lava which it poured out destroyed the extensive forests of coconut trees with which this part of the island was covered, and caused the death of many of the inhabitants. These islands furnish more than twenty-five kinds of wood suited for building and furniture. Two harbours, sheltered from all winds, exist in the larger Sangir, one in the Bay of Turuna, the other, called Midelu, on the eastern side.—*Jour. Ind. Arch.*

SANGLI, a Native State in the Southern Maharashtra country; area, 896 square miles, and population (1872), 223,663 persons. The portion watered by the Kistna is flat, and the soil particularly rich. The chief is a member of the Patwardhan family, whose founder, Hari Bhat, a Konkani Brahman, rose to military command under the first Peshwa, and received grants of land on condition of military service.—*Imp. Gaz.*

SANGSKARA, also Sungskritta, SANSK., from Sang, prep., and Kree, to do.

SANHITA. SANSK. A collection of hymns in the Vedas.

SANI, the planet Saturn, whose influence is supposed by Hindus to be malignant; also a deity of the Hindus. Sanichar, Saturday. In Maurice's Indian Antiquities is an engraving of Sani, taken from an image in a very ancient pagoda, which represents the deity encompassed by a ring formed of two serpents. Hence it is inferred that the ancients were acquainted with the existence of the ring of Saturn.—*Curiosities of Science.*

SANI, a light camel or dromedary, trained especially for the riding of native chiefs.

SANJAB. HIND. The sable fur; but furs sold as sanjab are generally marmot skins.

SANJAF. HIND. A border or edging of brocade, etc., inside the lining of a coat.

SANJAYA, the minister and charioteer of king Dhriti Rashtra, who went on an embassy to the Pandava prince Yudisthira.

SANKARA, Sarva, Sadasisva, or Sambhu, SANSK., are auspicious names of Siva.

SANKARACHARYA, who lived about the 8th or 9th century A.D., was a religious reformer. He is said to have been a Namburi Brahman of Cranganore, in Malabar or Kerala; but another account describes him as having been born at Chedumbaram, in S. Arcot, and afterwards residing in Malabar. He seems to have engaged in acrimonious controversies with other Brahmanas of the Saiva and Vaishnava sects. The Sankara Charitra, the Sankara Katha, the Sankara Vijaya, and Sankara Dig Vijaya, are books descriptive of his successes. He himself wrote numerous works, including commentaries on the Upanishads, Vedanta, Sutra, and Bhagavat Gita. He opposed the Naiyayika, the Saikhya, and the Mimansa philosophies, the last as represented by Madana Misra, with whom he held a long and acrimonious discussion. He led an erratic life through India and Kashmir, where he sat on the Pitha or throne of Saraswati, which is still shown to visitors. He then went to Badarikasrama (Badarinath), and finally to Kedarnath, in the Himalaya, where he died at the early age of 32. A Malabar Brahman is still the officiating priest at Badarinath.

He has been accused of having headed the general persecution against the Buddhists which was the main cause of the disappearance of that sect in Southern India.

The local persecution is recorded by Ananda Giri, a disciple of Sankara, about the 8th or 9th century A.D., and the author of the Sankara Vijaya. The magnified version appears in the Sarva Darsana Sangraha of Madhavacharya in the 14th century. In the course of Sankara's peregrinations he established several matha or convents, under the presidency of his disciples, particularly one still flourishing at Sringeri, on the Western Ghats, near the sources of the Tungabudra. The influence exercised by Sankara in person has been perpetuated by his writings, the most eminent of which are his Bhashyas or commentaries on the Sutras, or Aphorisms of Vyasa. He wrote also the Atma-Bodha or Knowledge of the Soul, which has been translated by Taylor in 1812, afterwards by Kearns, and into French by Neve.

His philosophic views are adopted by the Smartta Brahmanas, a numerous and prominent sect in the south of India.

Sankara taught that there was one sole and supreme God, Brahman Para Brahman, the ruler of

the universe, and its inscrutable first cause, who was to be worshipped by meditation. The Smarṭta Brahmans follow this philosophic side of his teaching. Sankara moulded the later Mimamsa or Vedantic philosophy into its final form, and popularized it into a national religion. He addressed himself to the high-caste philosophers on the one hand, and the low-caste multitude on the other. He left behind, as the twofold results of his life's work, a compact Brahman sect and a popular religion.

Weber (p. 51) doubts if he was a follower of Siva, but Sankara is the first great figure in almost every Hindu hagiology, or book of saints, from the Sarva Darsana Sangraha of Madhva-charya downwards; and some of the Saiva sects believe that he was an incarnation of Siva. He was undoubtedly monotheistical, and since his short life in the 8th or 9th century, every new Hindu sect has had to start with a personal God.

The literature relating to this reformer is contained in the Sankara Charitra, Sankara Kāṭha, Sankara Vijaya, and Sankara Dig Vijaya. The Sankara Vijaya was written by Ananda Giri, published in the Bibliotheca Indica, and critically examined by Kashinath Trimbak Telang in vol. v. of the Indian Antiquary. The Sankara Dig Vijaya is a polemic work by Ananda Bhima Deva. There are many Saiva sects in India who believe that Sankaracharya was their founder. He was the most renowned master of the school of Vedānta philosophy. He says—

'A drop that trembles on the lotus leaf,
Such is this life, so soon dispelled, so brief.

'The eight great mountains and the seven seas,
The sun, the gods who sit and rule over these,
Thou, I, the universe, must pass away,
Time conquers all : why care for what must pass away !'

The term Dandi means any one who bears a staff, but is applied especially to a numerous order of religious mendicants founded by Sankaracharya, many of whom have been eminent as writers on various subjects, especially on the Vedānta philosophy. They are divided into ten classes, Das-nami, each of which is distinguished by a peculiar name, as Tirtha, Asrama, Vairi, Atanya, Saraswati, Puri, Bharati, Giri or Gir, Parvata, and Sagara, which is added to the proper name of the individual,—as Purushottama Gir, or Balendhara Saraswati. They are hence known collectively as the Das-nami, or ten-name Gosuin. Of these, only the classes named Tirtha, Asrama, Saraswati, and part of Bharati, are now considered as pure Dandi; the others are of a more secular character, and are more usually termed Atit.—*Wils. Gloss.; Tr. of Hind. i. p. 275; Bunsen's God in History, i. p. 332; Doonson; Weber; Imp. Gaz.*

SANK'H or Sank'hā. SANSK. A pearl shell, any shell; a chaunk or conch shell, the war trumpet of Vishnu. The chaunks are large species of Turbinella, from 6 to 7 inches long, and of a pure white colour. They are imported into Calcutta from Rannad and South India, opposite to Ceylon, and from the Maldivé Islands. Sankhadwara, a chaunk locality, is the island of Beyt, still renowned for its shells, and one bank uncovered at low water, whence they are obtained, is close to the landing-place. But the rin-sank'h or war-shell, with which the Rajput was wont to peel a blast, the onslaught to battle, no longer graces

the hand of the Rajput, and its use is now restricted to the Brahman, wherewith 'to awake the gods in the morning!' to let the world know when he dines; or to form churi or bracelets for the arms of the Hindu fair. Chaunks are made into trumpets, rings, beads, armlets, bracelets; and the Sankasuri of Dacca are famed for their skill in the chaunk or sank'h work. The skill is remarkable with which the unyielding substance of a hard thick shell is converted into necklaces for men and into bracelets for women. The manufacture of shell bracelets is one of the indigenous arts of Bengal. At an early part of the 19th century, an entire street was occupied in the city of Dacca by Sankasuri shell-cutters. In Colonel Tod's time, the banks at Beyt were farmed of the Gaekwar government by a Parsee merchant of Bombay, who contracted with the Kharwar, at the rate of twenty koree (from five to six rupees) per hundred, and loaded them for Bombay, whence they were shipped for Bengal. Frequent allusion is made in the martial poetry of the Rajput to the 'blast of the shell,' which is as common as the charge of the brazen trump of western chivalry. Pre-eminent mention is made in the Great War of two of these. The chaunk shells worked up into ornaments have latterly been obtained from Ceylon. The chaunk shell is frequently used by devotees, also as an accompaniment to the tumkee. Sometimes they play trios and quartettos on the shells alone.—*Tod's Tr. 432.*

SANKHYA, a Hindu system of philosophy, teaching the eternity of matter and spirit independent of God, and apparently the earliest of all the systems that preceded the really philosophic age of the Hindu schools. Its author is said to have been Kapala, who is now fabled to have been a son of Brahma, and an incarnation of Vishnu; he is numbered among the seven great saints, and many marvels are ascribed to him. While using Vedic notions, he in the main departed from Vedic theories, and in all important particulars comes to conclusions diametrically opposed to what the Vedas teach. The Sankhya system contains two grand divisions, which differ on the vital question of the existence of a God. One is termed the Neswara Sankhya, that which owns a God; the other is called Niriswara Sankhya, or that which denies the very existence of a God; the latter was Kapala's system, a system at that time entirely new. It taught that there were two primary agencies, nature or matter and souls, but that there was no Supreme Being. He asserts as follows: 'Souls have existed in multitudes from eternity; by their side stands nature or matter; for eternal ages the two remained separate; at length they became united, and the universe in all its forms was developed from their union.' The object of the Sankhya, as well as of the other branches of the Hindu philosophy, is the removal of human pain by the final and complete liberation of the individual soul. The Sankhya system has 25 principles, to which the soul must apply itself as objects of knowledge, and in respect to which true wisdom is to be acquired; they are—

- 1st. Nature, termed 'Pradhān' or chief, from being the universal material cause, the prime cause of all things.
- 2d. Intelligence, the first product of nature; increate, prolific, itself productive of others.

3d. Self-consciousness ; its peculiar function is the recognition of the soul in its various states ; it is the product of intelligence, and itself produces.

4th to 8th. Five principles, subtle particles or atoms of things. These are imperceptible to the gross senses of human beings, but may be known by superior intelligence. Then follow—

9th to 19th. The organs of sense and action, of which ten are external and one is internal. The organs of sense are five ; the organs of action are five. The mind serves both for sense and action.

20th to 24th are five elements produced from the five subtle particles, viz.—

1. Ether ; this has the property of audibility, being the instrument of sound.
2. Air, which has two properties ; it is audible, and it can also be touched.
3. Fire ; this has three properties, — audibility, tangibility, and colour.
4. Water, possessed of four properties, — audibility, tangibility, colour, and taste.
5. Earth, possessed of five properties, — audibility, tangibility, colour, taste, and smell.

25th. The last principle is soul ; like nature, it is not produced but is eternal ; but unlike nature, it produces nothing from itself. It is multitudinous, individual, sensitive, eternal, immaterial.

The great error that lies at the root of the Sankhya system is, that the products of matter and mind are blended and confounded together. Its text-books are the Sankhya Pravachana and the Tattwa Samasa, both attributed to Kapila himself, and the Sankhya Karika to his disciple, Eawara Krishna. It consists of 68 aphorisms. Asuri and Pancha-shika are also mentioned as the earliest followers of this system.

The next Hindu system of philosophy is that attributed to Gautama, namely, the Nyaya system, which considers by means of subtle and logical argument, the true mode of inquiring after truth ; and has surveyed the whole field of this argument more exactly and completely than any other of the Hindu systems. The first inquiry of this system is, What is the way to attain perfect beatitude ? And the answer given is, ' That deliverance is only to be secured by a knowledge of the truth.' It then proceeds to examine what instruments are best adapted for the acquisition of that deliverance, and comes to the conclusion that they are four in number, namely, perception, inference, comparison, and testimony. It then minutely examines the various objects of knowledge which are required to be proved and known, which objects are 12 in number, — soul, body, sense, object, knowledge, the mind, activity, fault, transmigration, fruit, pain, and beatitude.

The Vedanta system thereafter made its appearance, in three stages of development. The germs of this philosophy, and even its principal doctrines, are contained in the Brahmana books of the Vedas ; then it is seen in a more complete form in the Sutras of Vyasa ; and lastly, this philosophy is recorded in the great commentaries which eminent scholars have written upon the original authorities. The voice of Hindu antiquity ascribes the origin of the Vedanta system to the sage Badarayana, otherwise named Veda Vyasa. The manner of his birth is thus described in one of the works ascribed to him :—

' Of birth and death, a multiplicity of souls is to be inferred.'

The fact of transmigration none of the Hindu philosophical systems dispute ; it is allowed by all. As a man casts off his old garments, and puts on new ones, so that soul having left its old mortal

frame, enters into another, which is new. One soul, and not another.

The Yoga system, called Seswara or theistic, founded by Patanjali, whose Yoga-Sutra is its text-book, and followed by the author of the Bhagavat Gita.

The Puranic school, a corrupt mixture of the two.

These philosophies are subjects of study for the learned of the Hindu people. Brahmanism is, at present, synonymous with Hinduism, and the Brahmanical religionists are of three classes,—the worshippers of Vishnu, of Siva, and the Sakta, or those who worship the female energies of gods. But their views seem to have been gradually brought to the present condition, and, as with the Hindu, is in some places a nature-worship, in others an idolatry, in others a hero-worship, in others a physiology or a philosophy, perhaps, in all, a spirit-worship. Bunsen says (iii. p. 516) the forms of worship followed by the Aryan immigrants, and the institution of castes, seem to have commenced after they crossed the Sutlej river, and the original seat of this worship extended from the Indus to the Gauges and to Bengal (Bihar). He adds that Brahmanism, after crossing the Sutlej, introduced Siva and other deities, and threw those of the Vedic period into the shade. According to Bunsen, it was about the year 3000 B.C. that the schism took place amongst the East and West Aryans, when all India east of the Sutlej adopted Brahmanism, and the religious views, forms, and habits of Bactria were for ever abandoned. According to Menu (the first book of which Bunsen thinks was composed but little antecedent to the Christian era), the world had passed through four yoga when Brahmanism was introduced ; and the Brahmanism of the Sanskrit books is the mythico-panteistic form of Vedic naturalism. Brahmanism is usually understood to be the later development and corruption of the ancient Vedic faith. Bunsen, however, expressed the opinion that the region of the Indus still retains the nature-worship of Vedism, while Southern India and the banks of the Gauges have long fallen into Brahmanism. But such is not the case ; the worship of the bulk of the Aryan races is divided between the physiological views entertained by those who believe in Siva and the hero-worshipping followers of Vishnu. Brahmanism is accommodating to anything that partakes of idol-worship. Similarly as a Roman would worship Isis and Osiris, so a Hindu makes offerings to apotheosized Muhammadans, such as Shaikh Sadu, Ghazi Minn, and Shaikh Madar in Northern India, and Bawa Adam in the Peninsula, the last of these being the lingam. Brahmanism is at present divided into several branches, each of which has many subdivisions ; the three principal branches are—1st. Vedantism, so named after the Vedanta of Vyasa. It has few adherents, consisting of some philosophical Brahmanas. Of the thousands of temples in India consecrated to various deities, only one is consecrated to this doctrine, in which Brahma is worshipped alone. 2d. Vishnuism. This doctrine raises Vishnu to the highest place, and adores his different avatars, together with a multitude of other deities, powers of nature, and mythical persons. Its professors are styled Vaishnava. 3d. Saivism. This doctrine places Siva

highest in the rank of the gods. The professors of this doctrine call themselves Saiva, and their number amounts to many millions more than the professors of Vishnuism. Although Siva is the god of destruction, he is also the god of production, considered with respect to the idea, which ever pervades the philosophical doctrine, namely, that death is but the recommencement of a new life. — *Elph. Hist. of India; Bunsen's Egypt's Place; Tod's Rajasthan*, i. p. 26; *Tennent's Christianity in Ceylon*, p. 199; *Hind. Th.* ii. p. 13; *Cal. Review; Garrett; Dowson*.

SANKHYA, Safed. HIND. Arsenious acid; S. bilauri, vitreous arsenic; S. pili, yellow arsenic; S. siya, impure bisulphide of arsenic; S. surkh, bisulphide of arsenic. Sankhya karika, a book containing the system of the Sankhya philosophy taught by Kapila. It consists of sixty-eight aphorisms.

SANKISA or Kapitha, an old city in the Gangetic Doab, near the town of Kanauj. It is in the Etah district, N.W. Provinces, and has been identified by General Cunningham with the capital of a considerable kingdom in the 5th century B.C. It was visited by Fa Hian about A.D. 415, and by Hiwen Thsang in A.D. 636, when it was still a celebrated place of Buddhist pilgrimage, being the spot where Buddha descended again upon earth by three staircases of gold, silver, and crystal, after a residence of three months in the Triyastirnas heaven, preaching the law to his mother Maya. King Asoka afterwards erected a pillar to commemorate the event, but no remains of it can now with certainty be discovered. — *Imp. Gaz.*

SANKRANTI. The winter solstice, the sun's entry into Capricorn, is called the Maha-sankranti or great Sankranti, and at this season, in the south of India, the Pongal festival is held. The Makar Sankranti festival is held about the 12th January, on the occasion of the sun entering the tropic of Capricorn or Makar. On this day the Hindu people bathe, and anoint the body with sesamum oil, listen to the prayers of Brahmans, to whom they give presents. The prayers on this day are only to the sun. They have friends to dinner at night, and put on new clothes. — *Wils. Glor.*

SANORIA, a predatory tribe in Bundelkhand.

SANPAKAVA DIVI, a poetess, daughter of one of the maid-servants of Karikal Chola. She was very beautiful, and had many admirers.

SAN-PU, or Ya-ru-tsang-po-chu, is the great river of Southern Tibet, and is supposed to be the Brahmaputra river, and to take its rise on the north face of the Himalaya, in lat. 30° 26' N., and long. 82° 5' E. Winding its way through Tibet, and washing the borders of the territory of Lhasa, it then turns suddenly south, and falls into the Brahmaputra, under the name of Dihang. A native, G—m—n, sent by Lieutenant Harman to Tibet to trace the San-pu to the eastward, returned after having followed the river to a point where its course turned southward nearly north of the spot where the Dihang emerges from the mountains into the Assam valley. All therefore tends so far to support the view that the San-pu and Dihang are identical. At the same time the question cannot be considered settled until the two rivers are actually traced into connection with each other. If the San-pu be the Dihang branch of the Brahmaputra, then it has a fall of about 7000 feet in

about 160 miles, or 40 feet per mile, which is not a very great fall for Himalayan rivers. The explorer was told that the river, after flowing through the Gmuchen country, entered a land ruled by the British. The Dihang river has at its mouth a discharge, at minimum level of the year, of 55,000 cubic feet per second, or four times that of the Subansiri river, and twice that of the Brahmakund branch of the Brahmaputra river. The wild Abor, who live in the Dihang valley, trade with Assam and Tibet; the more wealthy among them wear Tibetan woollens. They say their river comes from the far north-west; and survey operations in Assam have shown there is a great gap in the snowy ranges through which the Dihang passes, and that thereabouts (to N.W. of the mouth of the Dihang) is much low-lying country. G—m—n states that from Gyatsa Jong to Gyala Sindong the river is of very variable width, and is in places very narrow; at Gyala Sindong it is but 150 paces wide, though deep and with moderate current. One of Major Montgomery's pandits passed round Mount Everest northwards to the San-pu river, and thence south-west over the Dingri Maidan, the broadest plateau on the south of the Himalayan watershed that is drained by streams flowing direct into India. Besides determining the position of many peaks invisible from India, he threw light on the geography of the basin to the Arnu, the largest feeder of the Kosi, which drains the whole of Eastern Nepal.

SANSEE or Sansi, a thieving race of the Panjab. In 1863 efforts were made to reform them by inducing them to undertake agriculture.

SANSEVIERA ZEYLANICA. *Thumb.*

Marool, Murle, . . . HIND.	Dant saga, . . . HIND.
Moorva, Munga, . . . "	Chaga laga, . . . SINGH.
Moorghabi, . . . "	

This plant grows along all the coasts of Southern Asia; has smooth, oblong-acute, flat, and linear-lanceolate, channelled glaucous leaves. It resembles the agave in some of its characters, but produces finer fibres, which are easily separated from the pulp, and have been long known as a useful material for cordage, being soft, silky, and pliant when well prepared; about equal to the agave fibre in point of strength; but as it is a finer material, it might be applied to a better description of manufactures. The plant is easily propagated, and yields a good crop under cultivation. It was tried against Russian hemp on board the *Thalia* East Indiaman, when commanded by Captain Biden, and was highly approved of. It has also been made into fine cloth, thread, twine, rope; and cords are made from this fibre. The zonar, the sacred thread of the Hindu, was ordered by Menu to be made of the fibre, and the fine cord on which modern Hindus string their neck-ornaments is made of it. The fibres are commonly used to make bowstrings, and the plaited leaves form an excellent soft mat. The root is in a slight degree warm to the taste, is not of an unpleasant odour, and is prescribed by the native practitioners, in the form of electuary, in consumptive cases, and coughs of long standing. The juice of the tender shoots of the plant is given to young children for the purpose of clearing their throats of viscid phlegm. — *Roxb.; Voigt; Eng. Cyc.; M. E. J. R.; Ains. p. 88; Royle.*

SAN-SHE-JOO-LAE, the Tatha-gatha of the three Ayes, is the Buddhist trinity of China.

SANSIO. JAP. A middle-sized tree of Japan, with prickles. They make use of its bark and husks instead of pepper or ginger, and they eat the pleasant-tasting aromatic leaves.—*Aman. Ex.* p. 892; *Thunberg's Japan*, i. p. 115.

SANSKARA. SANSK. In Hinduism, essential rites, social and domestic, of which the Hindu religion has about 40, but the more important are as under :—

1. Garbhadhana, worship on a woman's evincing signs of pregnancy; sometimes on attaining maturity.
2. Punsavana, worship on quickening, to obtain a male child. The Mahratas perform this.
3. Anavalobhana, to obviate miscarriage.
4. Simantonnayana, parting the hair of the head of a pregnant woman, on the 4th, 6th, or 8th month.
5. Vishnubali, amongst the Mahratas a sacrifice to Vishnu, on the 7th month.
6. Jata karma, ceremonies at birth, amongst others putting of ghi into the child's mouth with a golden spoon, before cutting the navel-string.
7. Nama karanam, naming the child on the 10th, 11th, 12th, or 101st day after birth.
8. Nishkramanam, taking the child out of the house when three months old to see the moon in the third light fortnight.
9. Suryanilokanam, showing the sun to the child when four months old.
10. Annaprashana, feeding the child with its first rice, on 6th or 8th month.
11. Karnavedha, boring the ears.
12. Chudu or Chula karanam, on the 1st or 3d year and not later than the 5th year, shaving all the head save one lock, called the Chuda or crest.
13. Upanayana, investiture with the sacrificial thread, which falls from the left shoulder to the right hip; for a Brahman on the 8th to the 16th year; for a Kshatriya on the 11th and not later than the 22d year; and for a Vaisya on the 12th and not later than the 24th. This constitutes the Dwija or second birth of these three races.
14. Savitri maha namya, at the time of or four days after the Upanayana, when the Gayatri is taught and repeated.
15. Samavarttana, the ceremony on the student's completion of his studies and return home.
16. Vivaha, marriage.
17. Swargarohana, ascending to heaven; funeral ceremonies.

Of these, the 3d, 9th, 11th, 14th, and 15th are either local or modifications of others, and 17 is not a purification ceremony; and if these and others be excluded, the number is reduced to 10. Women have also the Sanskara of marriage.—*Wils. Glos.*; *As. Res.* xvii. p. 309; *Ward's Hindoos*, iii. p. 71; *Barth*, p. 51.

SANSKRIT, according to Professor Muller, is not the mother of Greek and Latin, as Latin is of French and Italian; but Sanskrit, Greek, and Latin are sister tongues, varieties of one and the same type, though Sanskrit is the older sister. It was Mr. Colebrooke's opinion that Sanskrit drew its origin from a primeval tongue, which was gradually refined in different climates, and became Sanskrit in India, Pehlavi in Persia, and Greek on the shores of the Mediterranean. The discovery and the study of Sanskrit have revealed to us the origin and the roots of the classical languages, and have enabled us to seize the relations existing between the idioms now designated by the name of Indo-Germanic or Indo-European. All the most readable Sanskrit Hindu works, the drama, the lyric, the sentimental and philosophical Kavya, as Nala and the Bhagavat Gita, the romantic histories and historical romances, the fables, Hito-

padesa, Vetala, Panchavinsuti, and so forth, and most of the works on science, are supposed to belong to the first ten centuries of the Christian era. It had ceased to be a spoken language at least 300 B.C. At that time the people of India spoke dialects standing to the ancient Vedic Sanskrit in the relation of Italian to Latin. Of these dialects there were more than one in various parts of India, from the inscriptions which the famous king Asoka had engraved on the rocks of Dhauli, Girnar, and Kapurdigiri, and which have been deciphered by Prinsep, Norris, Wilson, and Burnouf. We can watch the further growth of these local dialects in the Pali, the sacred language of Buddhism in Ceylon, and once the popular language of the country where Buddhism took its origin, the modern Behar, the ancient Magadha. We meet the same local dialects again in what are called the Prakrit idioms, used in the later plays, in the sacred literature of the Jaina, and in a few poetical compositions; and we see at last how, through a mixture with the languages of the various conquerors of India,—Arabic, Persian, Mongolic, and Turki,—and through a concomitant corruption of their grammatical system, they were changed into the modern Hindi, Hindustani, Mahrati, and Bengali. During all this time, however, Sanskrit continued as the literary language of the Brahmans. Like Latin, it did not die in giving birth to its numerous offspring; and even up to the middle of the 19th century it has been said that an educated Brahman would write with greater fluency in Sanskrit than in Bengali. But this must be accepted with grave doubts. Sanskrit was what Greek was at Alexandria, what Latin was during the middle ages. It was the classical, and at the same time the sacred, language of the Brahmans, and in it were written their sacred hymns, the Vedas, and the later works, such as the laws of Menu and the Puranas. Sanskrit and its congeners are inflectional languages, after the manner of the languages of Europe; while the Turki, Mongol, Tanguis, and Ugrian in the north and west, and the Tamil in the south, are agglutinate tongues. The Tibetan, Burmese, and all the Nepalese dialects are monosyllabic tongues. The Sanskrit differs from the Tamil of the south, and much more so from the Tibetan, Nepalese, and Burmese on its north and west. It has no relations with the Arabic. Armenian and Persian are modern dialects of sister languages to Sanskrit.

Inscriptions in the Aryan and Lat characters are engraved on the rocks at Kapurdigiri in Afghanistan, and at Cuttack, at Dehli on a pillar, also on pillars at Allahabad, Betiah, Mutiah, and Radhya. Later inquirers have agreed upon the contrasted terms of Aryan Pali, i.e. Bactrian, and Indo-Pali, i.e. the Aoka, Lat, and rock inscriptions, or the home-created writing of the Indian continent, before Semites or Sanskrit Brahmans entered India. Though the Sanskrit and Pali languages have ceased to be spoken in any part of India, both of them are in use as the sacred languages of the Brahmanical Hindus and the Buddhists.

Of European tongues, the nearest congeners to the Sanskrit are the Sarmatian languages of the Russian empire, then the classical tongues of Rome and Greece, then those of Germany and

the Keltic, this class of languages being called the Indo-Germanic. Of the Slavonic and Lithuanian, the two branches of the Sarmatian, the affinities of the Sanskrit are closer with the Lithuanian than with any other known tongue. Sanskrit, next to Lithuanian, is most like the Slavonic. It will thus be observed that the Aryan or Sanskrit-speaking races of India seem to have been closely connected with the Zend-speaking, Greek-speaking, Latin-speaking, German-speaking, and Slavonic-speaking races, and not at all with the Arabic, Phœnician, and Hebrew families.

Sanskrit philosophy has been greatly advanced by eminent writers of Europe,—Colebrooke, Wilson, Max Muller, Burnouf, the two Schlegels, W. von Humboldt, Bopp, Lassen, Sir Charles Wilkins, James Prinsep, Dr. Mill, Mr. Norris, Professor Dowson, Edward Thomas, Dr. J. Muir, Mr. Bayley, Bhau Daji, Babu Rajendra Lal Mitra, Dr. Burnell, General Cunningham, Barth, Williams, and Weber.

The Sanskrit language is flexible, ductile, polished, expressive, and copious. Its vast literature embraces law, philosophy, and logic, and boasts of old poems which reveal much that is curious in the adventures of hermits, princesses, warriors, and kings, as well as of dramas remarkable for originality and skill of plot and delicacy of poetic sentiment. But even in the works of the greatest of Indian poets there are occasional fanciful conceits, combined with a too studied and artificial elaboration of diction, and a constant tendency to what a European would consider an almost puerile love of alliteration and playing upon words.

SANSATHANA. **SANSK.** Corruptly Sanvasthan. A monastery, a place where a Hindu deity is said to have become manifest; a place sanctified by the residence of eminent Hindu teachers or holy men; the site of any sacred event.

SANTALACEÆ. Eight genera of Indian trees are recognised to belong to this order,—Henslowia, Osyris, Pyralaria, Santalum, Scleropyrum Wallichianum, *Arac.*, Sphaerocarya edulis, *Wall.*, Octarillum, and Thesium. They are trees, shrubs, or herbaceous plants, with round or irregularly-angled branches. Found in Europe and North America. In Australia, the East Indies, and the South Sea Islands they exist as large shrubs or small trees. The most valuable genus in this order is its type the Santalum, of which the species *S. album* forms the true sandal-wood of commerce.

SANTAL PARGANAS form a British district in Bengal, lying between lat. 23° 48' and 25° 19' N., and between long. 86° 30' and 87° 58' E. Area, 5488 square miles; population, according to the census of 1872, 1,259,287 souls. In the east a belt of hills stretches for about 100 miles from the Ganges to the Nambil river. West of this is a rolling tract of long ridges with intervening depressions, covering an area of about 2500 square miles. The third type is exemplified by a narrow, almost continuous, strip of flat alluvial land about 170 miles in length, lying for the most part along the loopline of the East Indian Railway. The Ganges forms the northern and a large part of the eastern boundary of the Santal Parganas, and all the rivers of the district eventually flow either into it or into the Bhagirathi. The Santal people have been known to the British

since the latter part of the 18th century. In 1832 two Government officials were deputed to demarcate with solid masonry pillars the present area of the Damani-Koh or skirt of the hills. The permission to Santals to settle in the valleys and on the lower slopes of the Damani stimulated Santal immigration to an enormous extent. Since the beginning of the 19th century they have intruded themselves into some of the Rajmahal districts, which therefore now contain two populations, allied to each other, but speaking languages said to be mutually unintelligible. And, in 1855-56, in attempting to revenge themselves on the Hindu money-lenders, who had taken advantage of their simplicity and improvidence, the Santals rose in arms. The insurrection was not repressed without bloodshed,—indeed, half their numbers perished; but it led to the establishment of a form of administration congenial to the Santal immigrants; and a land settlement has recently been carried out on conditions favourable to the occupants of the soil.

The Gonds, cowherds and milkmen (of whom there are 74,529), form by far the most numerous caste in the Santal Parganas; the artisan castes number altogether 83,722 persons, of whom 27,954 are Telis (oilmen). The total number of persons belonging to aboriginal tribes is 557,277, of whom the great majority (455,513) consist of Santals. The Paharias number 68,936. The other principal aboriginal tribes represented in the district are Naiyas (9179), Kols (8894), and Mala (8820). The total number of Santals throughout the whole of the Bengal Provinces is returned in the census report of 1881 at 210,661, of whom 203,264 are found in the districts of Bengal. Manbhum comes next with 132,445; Midnapur has 96,921; the Native States of Orissa, 76,548; Singhbhum, 51,132; Hazaribagh, 35,306. The Santals form 3 per cent., or more than one-third of the total number of the aboriginal races under the Lieutenant-Governor of Bengal, and are the best known to Europeans.

The Santal, Mundah, Bhumiij, and Ho races speak languages nearly identical. The Santal are a simple, industrious people, honest and truthful, tractable, free from caste prejudices, and are much sought after and prized as labourers by the Bengal indigo planters, and on the railways and other works of Western Bengal, and in the Assam tea plantations. The Santal are a branch of the Mundah Kol. They seem to have separated when the Mundah fell back on Chutia Nagpur from the Damuda river, which the Santal call their sea, and they preserve the ashes of their dead until an opportunity occurs of throwing them into that stream or burying them on its banks. Lieutenant-Colonel Dalton thinks that they left their chief settlements on the Damuda river from having been pressed by the Kurmi. The Santal, Bhumiij, and Mundah tribes have long been known to be intimately connected, and they have affinities with the wild clan of the Korewah of Sirguja and Jashpur, the Kheriah tribe of Chutia Nagpur, and the Juanga of the Cuttack tributary mahals.

The Santal and Bhumiij races have suffered in eastern consequence of the human sacrifices offered, up to 1835, at the shrine of Kali, as Runkini; but these races personally do not much care for this goddess, at whose shrine the establishment and ritual are essentially Brahmanical. The

Santal and Paharia or Rajmahali are markedly different in habits, appearance, manners, and national characteristics, and on the Chutia Nagpur plateau these differences are very marked. The Santal are a very ugly race, with flat, broad-nosed features. They are a more simple, mild, and industrious race than the Rajmahali, Gond, or Khond, are truthful and kind-hearted.

In 1881 they again became uneasy, the cause having a religious mixed with a political element. The movement is said to have been started in 1875 by one Bhagrit Mangi, who gave out that he was commissioned by heaven to deliver the Santals from British rule. He acquired great influence, his orders were implicitly obeyed, and he himself received both royal and divine honours, being crowned as king of the Santals, and having a shrine set up for his worship. Eventually he was convicted and imprisoned, and his shrine demolished, but his religion continued to spread, being preached throughout the country by his disciples, the Kherwar. The most influential of these, Dhubia Gosain Babagi, was arrested, and sent to Lucknow as a state prisoner about 1881. The Kherwar stirred up an agitation against the 1881 census, using it for their own purposes, and spreading wild tales as to the intentions of the Government, which were readily believed by the credulous Santal. The Santal believes in Chandabunga, to whom, once in three or five years, he sacrifices a goat on a Sunday. They have four gods of the woods (Dryads), called Jaihirira, Monikoh, Marungburu, and Gosaira, represented by four stones buried in a clump of trees called the Jairthan, and no Santal village can be settled till the Jairthan is established. Manjiharam, a deity in the shape of a stone, is buried in the centre of the village in a small open shed called Buddhathan, for Manjiharam is also called Buddah Manji, a Manji and Santal being synonymous. The panchayets of the Santal assemble here. In the months of April and May, when the leaves are bare, 2000 to 4000 Santals assemble with bows and arrows, for their great Seudra or hunting expedition, during which they make wide circles to enclose and kill all the smaller game. They eat the flesh of every animal. Their most solemn oath is taken when touching a tiger's skin. They dance in bodies of one or two hundred to the monotonous music of flutes and drums. The men go round one way, while the women circle the other. The men step in time without much action, but the women drop their heels and toes in a double shuffle, and bend their bodies forward to a half-kneeling position, as though paying homage to the men. The houses of the Santal are in enclosures made with the green boughs of the Sakua, planted in the ground and tied together; they keep each family distinct from its neighbours.—*Dalton*, p. 154; *Campbell*, p. 83; *Travels of a Hindoo*; *Lubbock*, *Or. of Civil*.

SANTALUM ALBUM. *Linn.* A small ever-green tree rising to 30 feet in height and 4 feet in girth. It grows in a wavy tract from S. Canara southwards into Mysore and Coimbatore; is most abundant almost throughout the dry Denkanacotta taluk of Salem, less abundant on other hill tracts in the Salem, Trichinopoly, and N. Arcot districts, such as the Shevaroya, Kollay Mallays, Putebe Mallays, Javadies, etc., and on the Pulneys

in Madura. In these places it is found up to about 4000 feet elevation. It also thrives well in North Canara; freely without any cultivation in all parts of the Bombay Dekhan; may be seen there in quantities in waste gardens, even in some of the grass preserves, and in numbers of the hedges along the water-courses in Western Kandesh. But the Northern Bombay sandal-wood has not the high qualities of that found in the more southern provinces.

The Madras Forest Department have now large plantations of this valuable tree. It grows readily from seed if slightly shaded. Two or three seeds are sown in the pit where the tree is to stand, and at the same time a few chili seeds round them; the latter grow up before the sandal seedlings, and give them the necessary amount of shade whilst young; eventually the strongest of the two or three seedlings only is left in the pit, the others being removed.

It is only the heart-wood that is scented and of any value, and trees grown slowly on rocky and dry poor soil produce the maximum of this; where the tree is found in rich alluvial soil on the banks of rivers, etc., it is of very fine growth, but produces no heart-wood, and is consequently valueless. The heart-wood is yellow, and deliciously fragrant; when unseasoned it weighs 72·75 lbs., and when seasoned 58 lbs., and its specific gravity is ·924. It finds an immediate sale at Rs. 4 or 4·8 per maund of 28 lbs., and it is chiefly employed for making all sorts of ornamental articles, such as small tables, work-boxes, glove-boxes, card-cases, etc. A valuable oil, used as a perfume, is distilled from the roots and chips or pieces of the heart-wood. The heart-wood of the tree yields the oil, and one pound of the wood will yield about two drachms. In North Canara there are many stills for making sandal-wood oil. The wood is burned as a perfume in houses and temples, both in India and China; is used in the funeral ceremonies of the Hindus; is employed for trunks, almirahs, etc., as a preservative against insects; is much used in making work-boxes, walking-sticks, pen-holders, and other small articles of fine ornament. Its powder is a favourite cosmetic with Hindu, Chinese, and Burmese ladies, and Hindus use it to form the sectarian marks on their foreheads. It is much used among the Chinese in cabinet-work, and in the manufacture of fans and other ornamental articles.

In Mysore, foresters are employed to destroy the strong creepers which tend to choke the young plants, springing from seed dropped in hedgerows by birds. It is their duty also to cut, annually, all the ripe trees, 20 years old, and to take care that the billets are properly prepared and sorted, and brought into the sandal godown.

Sandal-wood is very liable to the heart-shake, which decreases its value 20 to 30 per cent. It bears a small black berry, which, if planted, grows without any trouble. The seeds of the sandal-wood tree yield by expression a thick and viscid oil, which is burned by the poorer classes in lamps. The attractive nature of the sandal tree is described in the Sanskrit sloka, 'Round the stem of the Chandana dwell serpents; on its top birds; on its branches monkeys; on its flowers bees,—so the riches of a good man are beneficial to all.'—*Rozb.*; *Bennett*, *Gatherings*; *Gibson*; *Cleghorn*;

M'Gillivray; Wight; Mason; M. E. J. R.; Wilson, Hindu Theatre; Beddome.

SANTALUM CYGNORUM, *Miquel*, of S.W. Australia, yields scented sandal-wood. *S. Preissianum*, *Miquel*, of the desert country in extra-tropical Australia, yields the Quandong or edible native peach. *S. yasi*, *Simmonds*, of Fiji, yields scented sandal-wood.

SANTALUM FREYCENETIANUM, *Gaudi*, grows up to 3000 feet elevation in the Sandwich Islands. The sandal-wood of the Sandwich Islands is from *S. Freycenetianum* and *S. paniculatum*, and the name of sandal-wood is also given to the wood of the *Exocarpus latifolia*, which grows in the Percy Islands, Repulse Bay, Cape Upstart, Palm Islands, etc. etc.; but it is useless as a substitute. These grow in the South Sea Islands, at Hawaii, Fiji, and New Hebrides, but have been nearly extirpated by the avidity of traders.—*Bennett's Gatherings*, p. 419.

SANTALUM MYRTIFOLIUM, *Roxb.*, is a strongly-marked variety of *S. album*, found by Dr. Roxburgh in the mountains of the Rajamundry Circar. It is distinguished by its opposite lanceolate leaves. The wood is of little value, according to Dr. Roxburgh; but Dr. Wallich says it is 'certe odoratissimum'.—*Roxb.; Wall.; O'Sh.*

SANTANU, a king of the Lunar race, 13th in descent from Kuru, who gives the designation of Kaurava to Duryodhana and his brothers. Santanu had four sons,—Bhishma, Chitrangada, Vichitravirya, and Vyasa. The first never married, the second two had no children, but Vyasa begat a child from each of their widows, the children's names being Dhritrashtra and Pandu.—*Garrett*.

SANTAPILLAY ROCKS, on which is a lighthouse, in lat. 18° 4' N., and long. 83° 39' 30" E., 13 miles N.E. from Bimlipatam, form one of the most dangerous shoals in the Indian Seas. They are under water 10 feet, 5 or 6 miles off the coast.—*Findlay*.

SANT'HA, a small tribe occupying a dozen villages on and skirting the Mainpat, a lofty tableland in Sirguja, and found also amongst the inhabitants of the villages. They do not number more than 100 families, but they consider themselves a separate tribe.

SANTI-NATHA, the 16th Tirthankara of the Jains.

SANTIPUR, the most populous town in Nadiya district, Bengal; situated on the river Hoogly, in lat. 23° 14' 24" N., and long. 88° 29' 6" E. The Ras-jatra festival in honour of Krishna, is celebrated at Santipur on the day of the full moon in Kartik (October—November). The fair is visited by about 25,000 or 26,000 persons. In the Santipur women are observed that light female form, that slender and delicate make, that graceful shape and elegance of proportions, and that smooth, soft body, which constitute the native beauty of Bengal.—*Tr. of Hind.* i. p. 22.

SANWAK, a class of hereditary slaves; in Chutia Nagpur the Banda Sanwak is a slave for life, but whose children are not slaves, and the Chuta Sanwak is described as a slave for debt. Also in Chutia Rangpur, Rangvrbh, and Hazaribagh, there are Sanwak life-slaves, generally from the hill tribes. In Oudh, on a petty loan of Rs. 10 or 20, the Halwaha ploughman binds himself and his heirs to his security until principal and interest has been paid to the last cowrie, often

24 or 37½ per cent. per annum. In the Trans-Gogra districts, ploughmen receive loans, the interest of which they repay in labour, receiving one-sixth of the grain, called *blata*, which he helps to rear, and a blanket. His wife is also employed in grinding grain, husking rice, and feeding animals, etc., and receives the huskings, bran, etc., and a *dhotti*. Under British rule, the son is only responsible for the father to the extent inherited.

SANYAL PEN or Sanalk, the spirits of the departed, amongst the Gond, worshipped or propitiated for a year after death; but persons of note, headmen of villages or priests, are treated as gods for years or generations, and sacrifices are usually offered at their *Sthapana* or shrines of earth.

SANYASI. Amongst the rules prescribed for Hindu men, those of the Brahman, the Kshatriya, and the Vaisya have to pass through four stages (*asrama*) in life, viz. the Brahmachari or religious student, the Grihashta or householder, the Vanaprastha or hermit, and the Bhikshuka or Sanyasi, religious mendicant, who has renounced the world; but this term is now applied to a variety of religious mendicants, some of whom wander singly about the country, subsisting on alms, or collected in maths under a spiritual head. The Sanyasi is most usually a worshipper of Siva. The Sanyasi is a professed ascetic, but some of them marry, an instance of which, in 1868, was the Sanyasi family at the temple of Mahadeo at Rainapur, near Mominabad. Amongst the Vaishnava, the terms Sanyasi and Viragi are in a great measure restricted to peculiar classes; but amongst the Saiva, all the sects, except the San-yogi Atit, are so far excluded from the world as not to admit of married teachers,—a circumstance not uncommon amongst the more strict followers of Vishnu. In general, the Brahmachari or student, and the Advaita or Advaita and Alaknami, express all the Saiva class of mendicants, except perhaps Jogi. The Brahmachari or students are also regarded as Sanyasi; and where the term is used in a definite sense, the twelve classes, viz. the Daudi, Brahmachari, and ten Das-nami orders, are implied. Thus Sanyasi and Viragi are terms applied generally to all the erratic mendicants of the Hindus of all religious orders. The terms signify a man who has abandoned the world or overcome his passions. Occasionally, however, the people distinguish between a Sanyasi and a Viragi, in which case the term Sanyasi implies the mendicant followers of Siva, and Viragi those of Vishnu. The distinction thus made requires a peculiar exception, for besides the indiscriminate application of the term Sanyasi to the Vaishnava as well as other mendicants, there is a peculiar class of them to whom it really pertains, these are the Tridandi or Tridandi Sanyasi. These are such members of the Ramanuja or Sri Vaishnava sect as have passed through the two first states of the Brahmanical order, and entered that of the Sanyasi or the ascetic life. Their practices are in some other respects peculiar; they never touch metals nor fire, and subsist upon food obtained as alms from the family of Brahmans of the Sri Vaishnava faith alone. They are of a less erratic disposition than most other mendicants, and are rarely met with in Upper India, but are found in considerable numbers, and of high character, in

the south. In their general practices, their religious worship and philosophical tenets, they conform to the institutes and doctrines of Ramana. The Asiatic Researches (v. p. 49) mention a Sanyasi at Benares who had, for 35 years, slept on a bed of iron spikes.—*Wilson, Hindu Sects.*

SANYOGI, a married mendicant. Byragi or Sanyasi.

SAPAN-WOOD, *Cesalpinia sapan*.

Lolan, . . .	AMBOYN.	Sanya, Roro, . . .	MOLUCCAS.
Su-fang-mu, Su-muh, CH.		Patonga, . . .	SANKE.
Puttung, Bukkum, HIND.		Sibukas, . . .	TAGALA.
Sachang, . . .	JAV.	Isiapungum, . . .	TAM.
Sapan, . . .	MALAY.	Vattanghy, . . .	"

The product of *Cesalpinia sapan*, a thorny tree indigenous to Siam, Pegu, the Philippine Islands, Tenasserim, Bengal, throughout the Archipelago, in the south of India, in Tanjore, Travancore, Goa, and Cuddapah, and abundant in the Western, Southern, and Central Provinces of Ceylon. It is fit for cutting when about five years old, at which time it attains a height of 10 or 12 feet. The valley of the Tenasserim, between the latitudes of Tavoy city and the mouth of the Tavoy river, and the hills that border the valley on the eastern side, abound in sapan-wood. The tree has a wide range, the Karens say, on the Meinam side of the mountain in Siam, and is abundant in the island of Sumbawa, and in the provinces of Iloilo in Panay, and Pangasinan in the great island of Luzon. In Siam it sells at 5s. 6d. per 133½ lbs.; in the Philippine Islands at 9s. 5d. per 133½ lbs. Sapan-wood is the logwood of the Archipelago, whence it was formerly exported in large quantities to Europe and America. A red dye is made from an aqueous extract of the chips, but it is not reported to be a fast colour, and is principally used for common and cheap cloths. It is precipitated dark brown with iron, and red with alum. The wood contains much gallic and tannic acids, and is a substitute for logwood, though weaker.—*Faulkner; Simmonds' Dict.; Tredgold; M. E. of 1855; Mason; Crawford.*

SAPEC, in Japan a cash, about the 5200th of a dollar. A Tartar money of account, equal to about 5d. sterling.

SAP-GREEN. Luh-kiau, Luh-kau, CHIN. This beautiful and permanent dye-stuff is made in Europe from the *Rhamnus catharticus*, the common buckthorn, by the action of lime. That of China is the product, in great part, of the *Rhamnus infectorius*. It is made in Shan-tung, Hu-peh, Che-kiang. That of Hankow is expensive, and is sold in the form of thin, dry, bluish scales, which when rubbed up produce a bluish-green pigment, used to colour shark skin for covering spectacle cases. It has the purgative properties of the buckthorn in the crude state, and makes excellent marking-ink when mixed with lunar caustic. Lime is present in the sap-green of China, as it is added to neutralize the acetic acid which is apt to form in this as well as in the syrup of buckthorn.—*Smith.*

SAPHARA, a palanquin carried on the shoulders of Nambi Brahmins.—*Taylor.*

SAPI. MALAY. A wild breed of the genus *Bos*. The Sapi has much the general appearance of the Bali cattle, but has not the white patch on the buttock; the horns are small, curved inward, white tipped with black; the forehead is flat, with a tuft of long hair on it, particularly on the

bulls; the back is curved, the highest point being about the centre; the spines of the vertebra are usually long. The total height of an animal killed, from foot to spines of dorsal vertebra, was 6 feet 2 inches; the hair was smooth and silky, of a brown colour, except on the feet, which were of a dirty white; a mane about 2 inches long runs the whole length of the spine. There is no dewlap. The fibre of the flesh is fine, well mixed with fat, a most delicious meat for flavour, tenderness, and juiciness that ever could be tasted. The other species of wild cattle is the Saladang. A Malay guide, Inchi Basow, stated that the meat was coarser than the buffalo, and not good eating, but that the animal was much larger than the Sapi, some of the bulls growing to seven 'asta or cubits.' This is the doubtful height of 10½ feet.—*Journ. Ind. Archip.*, 1850, p. 355.

SAPINDACEÆ. *Juss.* The soap tribe of plants or soap-worts; trees or shrubs with erect or climbing stems. The order is divided into four tribes, viz. Sapindæ, Acerinæ, Dodonææ, and Staphyleæ. The chief plants of the East Indies genera and species may be thus shown:—

Cardiospermum halicacabum, *L.*, all India.
C. canescens, *Wall.*, Burma.
Sida sanguinaria, *Buch.*, Gopalpara, Sylhet, Ava.
Schmidelia serata, *D.C.*, Peninsula of India, Bengal.
S. aporetica, *Roxb.*, Sylhet.
S. glabra, *Roxb.*, Chittagong.
S. villosa, *Wight*, Chittagong.
S. dentata, *Wall.*, Assam.
S. cobbe, *Bedd.*, S. India.
Sapindus saponaria, *L.*, West Indies.
S. laurifolius, *Vahl.*, Peninsula of India.
S. emarginatus, *Vahl.*, Peninsula of India.
S. detergens, *Roxb.*, Bengal.
S. rubiginosus, *Roxb.*, both Peninsulas of India.
S. polyphyllus, *Roxb.*, Pegu.
S. undulatus, *Wall.*, —?
S. acuminatus, *Wall.*, Nepal, Himalayan valleys.
S. fruticosus, *Roxb.*, Moluccas.
S. danura, *Roxb.*, Sunderbuns.
S. angustifolius, *Wall.*, Khasya.
S. attenuatus, *Wall.*, Assam.
Cupania canescens, *Pers.*, Circars, Kandalla.
C. levis, *Pers.*, Bourbon, Mauritius.
C. Roxburghii, *Wight*, Sylhet.
C. glabrata, *Kurz.*
C. pentapetala, *W. and A.*
C. sapida, *Cambess.*, Guinea, cultivated in India.
C. Madagascariensis, *G. Don*, cultivated.
Harpulia cupanioides, *Roxb.*, Chittagong.
Baccaurea Picardi, *Buch.*, Tiperah, Burma, Cochin-China.
B. affinis, *Mull.*
B. Courtallensis, *Mull.*
B. flaccida, *Mull.*
B. parviflora, *Mull.*
B. propinqua, *Mull.*
B. sapida, *Mull.*
B. dulcis, *Wall.*, Penang, Sumatra.
Nephelium lichi, *W. and A.*, China, cultivated in India.
N. rimosum, *W. and A.*, Sylhet.
N. lappaceum, *L.*, Rambutan, N.E. Archipelago.
N. longan, *Cambess.*, China, Cochin-China, both Pen. of India, Khasya.
N. pyrolæum, *Kurz.*
N. rubescens, *Hiern.*
N. stipulaceum, *Bedd.*
N. rubrum, *Wight*, Sylhet.
N. verticillatum, *Wall.*, Moluccas.
N. variable, *Wall.*, Khasya.
Schleichera trijuga, *Willd.*, Peninsula of India.
Melicocca bijuga, *Linn.*, Jamaica, East Indies.
Kolreuteria paniculata, *Larn.*, China.
Dodonæa Burmannia, *D.C.*, Peninsula of India.
D. dioeca, *Roxb.*, Hindustan.
D. viscosa, *Linn.*, Himalaya.
Æsculus Indica, *Coleb.*, Kashmir.

Æ. punduana, Wall., Khassya, Burma.
Pometia tomentosa, Bth., Andaman.
Staphylea emodi, Wall., N.W. Himalaya.

The leeches and the longan are produced by the genus *Nephelium*. These fruits are sweet, with a sub-acid flavour; they are considered a great luxury in China, and are sent at a great expence from the provinces of Foh-kien and Kwang-tung, where they grow, to Peking, for the consumption of the emperor. *Sapindus* is remarkable for bearing a pulpy fruit, the outer part of which has been used, on account of its detergent properties, as a soap. In China, the seeds of a *Sapindus*, besides their value in cleansing, are worn as beads, 'because,' say the Buddhists, 'all demons are afraid of the wood;' one Chinese name means preventive of evil. The leeches succeed well in most parts of India. *N. longan* and *N. lappaceum*, the Rambutan of the Malayan Archipelago, yield edible fruits, as well as *N. rimosum* and *N. rubrum*, both inhabitants of the Sylhet district. So are those of *Melicocca trijuga*, called even in the distant parts of India where this tree is indigenous, kusombhu and kusum, and where, as in the Doon in April, it may be readily recognised at a distance by the red colour of its young leaves. All its parts of fructification are liable to considerable variation. The pulpy sub-acid aril forms a grateful fruit; the wood is hard, and used as timber. *Schmidelia serrata*, of which the root is said to be astringent, yields also an edible fruit. The wood of several species is close-grained and hard, and forms valuable timber, as of *Sapindus rubiginosus*, and of the longan and *N. lichi*, the latter also one of the most ornamental of trees.—*Royle*; *Roxb.*; *Voigt*; *Eng. Cyc.*; *Williams' Midd. Kingd.* p. 286.

SAPINDANA in Hinduism is an ancestral *sradha* performed at the expiration of twelve months after the death of a person, who then becomes included in the race of ancestors. Hence relations connected by offerings of cakes to common ancestors are called Sapinda. All who are Sapinda to the same deceased are Sapinda to each other, by offerings of the Pinda or funeral cake.—*Garrett*.

SAPINDUS, a genus of plants of the natural order Sapindaceæ,—names derived from *Sapo* Indicus or Indian soap,—the berries of several of the species, the *S. saponaria* in Java, *S. rarak* in India, *S. acuminatus*, *S. laurifolius*, *S. emarginatus*, and *S. detergens* (the last, according to Dr. Roxburgh, nearly allied to *S. saponaria*), being all used for the purposes of soap; owing, it is now ascertained, to the presence of the vegetable principle called saponine. This has been traced in many other vegetables, which have the property of forming a lather with water. *S. laurifolia*, *Roxb.*, is a stout, very shady tree, of various parts of India; *S. squamosus*, *R.*, is a native of the Malay Archipelago and of the island of Nassau-laut. *S. longifolia* and *S. fruticosus*, *R.*, and *S. serratus*, *R.*, are trees of the Moluccas. *S. acuminatus*, *Wall.*, is a tree of the valleys of the Himalaya, of Nepal, and the Khassya mountains. *S. fruticosus*, *Roxb.*, a shrub of the Moluccas, has pretty, rose-coloured, small flowers, in racemes in March, and fruiting in May. Introduced into the Dekhan. *S. unijugus*, *Thw.*, a large tree in the Hewahette district of Ceylon, at an elevation of 3000 to 4000 feet. *S. attenu-*

atus, *Wall.*, the Lal-koi-pura of Sylhet, has a hard, white wood. *S. danura* (the *Scytalia danura*, *Roxb.*) of N. India, the Sunderbuns, and Andamans, is used for boat and house building.—*Voigt*; *Thw.*; *Gamble*; *Riddell*.

SAPINDUS CHINENSIS. *Smith*. The Wu-hwan-tsz and Fei-chu-tsz of the Chinese, is a large tree with round berries like those of the melia. They are sometimes used as a detergent; they are occasionally roasted and eaten by the Chinese. They are made into rosaries. Sticks of the tree are used by the Taoist sectarians to exorcise demons.—*Smith*.

SAPINDUS DETERGENS. *Roxb.*

Soap nut tree, . . .	ENG.	Arittha, Haritha, . . .	HIND.
Soap berry tree, . . .	ENG.	Arishta, . . .	SANSK.
Do-dan, Ritha, . . .	HIND.		

A small but handsome tree of India, attaining 20 feet of height; berries used for washing woollens and silks, also for the hair of the head. They form a soapy admixture with water. In medicine, applied externally to pimples and abscesses, internally in cases of headache, also in epilepsy, and as an expectorant; if pounded and thrown into water, it destroys fish. It is also recommended for the cure of chlorosis, also to stop epileptic fits by placing its powder in the mouth.—*Roxb.*; *Voigt*; *Lt.-Col. Lake*; *Stewart*; *Powell, Handbook*.

SAPINDUS EMARGINATUS. *Fahl.*

Buro ritha, . . .	BENG.	Rarak, . . .	MALAY.
Haeik-khye, . . .	BURM.	Penela-gas, . . .	SINGH.
Thaly marathu, . . .	CAN.	Puvandi, Ponnanga, . . .	TAM.
Rithi-ka-jhar, . . .	HIND.	Kunkudu, . . .	TEL.
Areeta, . . .	MAHR.		

This handsome middling-sized tree grows in the Peninsula of India, in Bengal, Ceylon, and Burma. Its fruit is sold in all bazars as a detergent, and in many cases yields a more profitable return than any other fruit tree. The wood is occasionally used by the natives for ordinary purposes, such as posts, door frames, and the construction of carts. It is pale yellowish, close and prettily grained, hard, but not durable, and cracks if exposed, and is said not to work easily. Unseasoned it weighs 75 to 80 lbs. the cubic foot, and 64 lbs. when seasoned; its specific gravity is .928. Mr. M'Ivor says the wood is elastic, strong, and durable. Its semi-solid oil, extracted from the kernel, is used medicinally. Its cost prevents its general use. When the soap nut is mixed with water it froths like soap, and is used instead of that substance for washing woollens, silks, and hair. Dr. Sherwood has mentioned that the seeds pounded with water often put an end to the epileptic paroxysm, a small quantity being introduced into the patient's mouth.—*Roxb.*; *Wight*; *Gibson*; *Cleghorn*; *O'Sh.*; *Beddome*.

SAPINDUS LAURIFOLIUS. *Fahl.*

Sapindus acuta, *Roxb.* | *S. trifoliata*, *Linn.*

This tree, Purinsji or Urinji, MALEAL, grows in the Peninsula of India, where its fruit and leaves are used in medicine. Its berries are saponaceous and used by all.—*Roxb.* ii. p. 278.

SAPINDUS RUBIGINOSUS. *Roxb.*

<i>S. fraxinifolia</i> , <i>D.C.</i>	|	<i>Moulvisia rubiginosa</i> , <i>Don.</i>
Haeik-kyi, . . .	BURM.	Isakarsai manu, . . .
Rusty soap nut, . . .	ENG.	Ishi-rashi, . . .
Rithi-ka-jhar, . . .	HIND.	Undurugu manu, . . .
Mani pungum, . . .	TAM.	

This large timber tree grows in both the Peninsulas of India, in the mountainous tracts of the

Circars, in the Pegu district, where it attains a girth of 3 or 4 feet, growing tall in proportion and straight. Its wood is white coloured, large, straight, strong, and durable, and useful for a great variety of purposes. When dry it has something the appearance of teak, but towards the centre it is chocolate coloured. Its Tamil name is derived from the quantities of silex or sand it contains, particularly near the bark, and which injures tools used in working it.—*Roxb.*; *Voigt*; *Mr. Rohde*; *Dr. McCl.*; *Flor. Anst.*; *Ains.*

SAPIUM, a genus of plants belonging to the natural order Euphorbiaceæ. *S. baccatum*, *Wight*, a tree of Assam, with minute greenish flowers.

Sapium Indicum, *Willd.*

Huriga, . . . BENG. | *Kirri nakulu*, . . SINGH.
Benjeri, . . . MALAK.

A small tree of the warmer parts of Ceylon, the Coromandel coast, South Konkan, the Sunderbuns, and Assam, with minute greenish flowers, and in fruit all the year round. Capsule or nut globular, size of a nutmeg, and exceedingly hard; juice very poisonous, taste exceeding nauseous; seeds used for intoxicating fish.—*Cal.*; *Roxb.*; *O'Sh.*; *Thur.*

SAPOR or Shahpur, the second sovereign of the Sassanian dynasty of Persian kings. It was this sovereign who captured the Roman emperor Valerian. He succeeded the Artaxerxes of the Greeks and Romans, that being their mode of pronouncing Ardeshir. Ardeshir Babegan, the son of Sassan, was an officer of the Parthian king Arsaces Artobanus v., and assumed the Persian throne as the first of the Sassanian dynasty in A.D. 226. His successor was the Shapur or Sapor who captured the emperor Valerian. There were other Artaxerxes, the first in A.D. 381, and the second in A.D. 629, and the Sassanian dynasty ended in A.D. 641, when Yezdejdird or Izdejdird III. was overthrown by the Arabs. Artaxerxes Longimanus was the Kai Bahman or Adashir darzadast of the Kaianian dynasty of Persian kings. Artaxerxes Mnemon, a Persian king, B.C. 426, at whose court Ctesias resided for some years. After Scylax, Ctesias was the next historian in India, and in his India, cap. iv. p. 190, he mentions that Artaxerxes Mnemon and his mother Parasatis presented him with two iron swords, which when planted in the earth averted clouds, hail, and strokes of lightning. This is the first notice of the lightning conductor.—*Prinsep* by *Thomas*.

SAPOTACEÆ. *Endl.* The Sappodilla tribe of plants comprise genera which may be thus shown:—

Achras sapota, *Linn.*, East and West Indies.
A. sesiliflora, *Poir.*, Mauritius.
Lucuma mammosa, *Juss.*, America, China, E. and W. Indies.
Chrysophyllum cainito, *L.*, E. and W. Indies, S. America.
C. Roxburghii, *G. Don*, Assam, Khasya.
Imbricaria Commersonii, *G. Don*, Bourbon, Mauritius, Java.
Paya lucida, *D.C.*, Cachar, Tenasserim.
Isanandra Wightiana, *D.C.*, W. Ghats, Ceylon.
I. obovata, *Griff.*, Tenasserim, Tavoy.
Sarcosperma Griffithii, *Hooker f.*, E. Himalaya.
S. arborea, *Hook. f.*, E. Himalaya.
Dichopsea polyantha, *Benth.*, Cachar, Chittagong, Assam.
Mimusope Indica, *D.C.*, S. India.
M. littoralis, *Kurz*, Andamans.
M. elengi, *Linn.*, Moluccas, Ceylon, both Pen. of India, Bengal, Sylhet.

M. obtusifolius, *Lam.*, Mauritius.

M. kauki, *L.*, Malabar, Gour, Malay Islands, New Holland, Moluccas.

M. hexandrus, *Roxb.*, Circar mountains, Bombay.

M. erythroxylon, *Bojer*, Bourbon, Mauritius.

Bassia longifolia, *L.*, Ceylon, Malabar, Coromandel.

B. sericea, *Bl.*, Java.

B. latifolia, *Roxb.*, Peninsula of India, Malwa.

B. cuneata, *Bl.*, Java.

B. butyracea, *Roxb.*, Nepal, Almora.

B. Parkii, *G. Don*, West Africa.

Sideroxylon inerme, *L.*, —?

S. elengioides, *D.C.*, W. Ghats.

S. regium, *Wall.*, Pegu.

S. cinerium, *Lam.*, Mauritius.

S. tomentosum, *Roxb.*, Ghats.

S. Wallichianum, *Wall.*, Penang.

Isanandra lanceolata, *Wight*, Peninsula of India.

I. villosa, *Wight* *lc.*, Peninsula of India.

I. gutta, *Wight* *lc.*, Malay Peninsula, Java, Borneo.

The Indian Sapotæ spread from the islands of the Indian Archipelago along the Malayan Peninsula to Sylhet, and from that to Nepal. The *Achras sapota* has delicious fruit with very bitter seeds, believed in Martinique to be powerfully diuretic; the bark is deemed a substitute for cinchona. The barks of other species are astringent, the fruits pulpy, acidulous, and edible. The seeds contain an oil rich in stearine. *Bassia butyracea* is found in the neighbourhood of Almora and Nepal Hills. The butter is of a delicate white colour, and of the consistence of fine lard, but without any disagreeable smell. It is highly esteemed as a liniment in rheumatism, contraction of the limbs, etc., and when used by natives of rank is frequently impregnated with some fragrant attar. The tree very much resembles *B. latifolia*, but may be distinguished by its much less fleshy corols and more numerous stamens; flowering in January, and ripening its fruit in August. The kernels are about the size and shape of almonds, are easily extracted from the smooth cheanut-coloured pericarps, when they are bruised and rubbed up to the consistency of cream, and subjected to a moderate pressure in a cloth bag. The oil concretes immediately it is expressed, and retains its consistency at a temperature of 95°.—*Lindley*, *Fl. Med.* p. 388; *O'Sh.* p. 427; *Royle*, *Ill. Hm. Bot.* pp. 262, 263; *Roxb.*

SAPOTA ELengioides. *A. D. C.* A large tree of the hot, drier parts of the island of Ceylon, common on the Neilgherries. Bark rough and cracked; fruit edible, used in curries; wood strong and elastic like the hawthorn, burns well when green.—*Thur.*; *M'Inor*.

SAPPHIRE.

<i>Safir</i> , . . . ARAB, SW.	<i>Sapphirus</i> , . . . LAT.
<i>Saphir</i> , . . . DAN, FR.	<i>Sāfira</i> , . . . PORT.
<i>Sāfiristinn</i> , . . . DUT.	<i>Jachant Sāfir</i> , . . . RUS.
<i>Sapphir</i> , . . . GER.	<i>Nil</i> , . . . SINGH.
<i>Nilam</i> , HIND, MALAY, TAM.	<i>Sāfiro</i> , <i>Sāfir</i> , . . . SP.
<i>Zaffiro</i> , . . . IT, SP.	

Corundum, if translucent, when red is the oriental ruby, when blue a sapphire, when green it is the oriental emerald, and when yellow a topaz. Sapphire is usually dark-blue, but also occasionally colourless, and the green variety of corundum is the rarest of all gems. But Sapphirus with the ancients was a generic term for all blue gems. It was on sapphirus tablets that the Ten Commandments were engraved. In the arts, other minerals are also styled sapphire, the names being dependent on their colours. Chemically, sapphire is 92 per cent. of a pure alumina; it occurs in six-sided prisms, often with uneven surfaces; it

also occurs granular. When the surface is polished, a star of six rays corresponding with the hexagonal form, is in some specimens seen within the crystal.

Corundum, sapphire, ruby, emerald, and topaz are found in great abundance in the Peninsula of India, but not with sufficient translucence to be valuable as precious stones. At the Madras Exhibition some small fragments of sapphire and of spinel, with the matrix in which it occurs, were exhibited from Masulipatam. Sapphires, in colour, vary to the deepest blue and black, and stones are often of varied hues. If held in water with forceps, these coloured and uncoloured stones will be seen. A very good blue sapphire of one carat weight would bring £20.

Occasionally very valuable stones are met with, but the great bulk are of comparatively little worth, the larger among them being generally full of flaws. Sapphires of good quality are also found in the same beds in the proportion, it is said, of one sapphire to about 500 or 600 rubies. In an appendix to Yule's *Ava* (published 1857), Mr. Oldham, superintendent of the Geological Survey of India, estimated the value of the gems found in these mines, rubies and sapphires, about £15,000 per annum. The mines are considered the sole property of the king, who maintains a strict monopoly of them, and employs his own lapidaries to polish and prepare the best of the stones.

Sapphires have been discovered in the territory of the maharaja of Kashmir.

Sapphire occurs in Ceylon in dolomite. A piece dug out of the alluvium near Ratnapura, in 1853, was valued at £4000. In Burma, sapphires are found in the same earth with rubies, but are much more rare, and are generally of a larger size. Sapphires of 10 or 15 rati without a flaw are common, whereas a perfect ruby of that size is hardly ever seen. The value of the gems, rubies, and sapphires obtained in a year may be from 1½ to 1½ lakhs. A Karen informed Dr. Helfer that precious blue stones are to be had, which the Shan people collect and carry to Bangkok. He described the place as eight days' distant. Some valuable sapphire mines were discovered in 1878 in the Shan provinces of Chantaboon and Battambang, and throughout 1879, thousands of British subjects went from Burma to the mines. One sapphire was offered for sale at Chantaboon for Rs. 1000. The owner finally sold it in Calcutta for Rs. 3000. The largest which the Government has yet heard of weighed 370 carats in the rough, and 111 carats when cut. The mines are said to be very unhealthy. In Mr. Hope's collection is a blue sapphire which cost £3000. A valuable sapphire of 133 carats, now in the Museum of Natural History at Paris, is said to have come from Bengal. It was sold for £6800. Lady Burdett Coutts had two of them, valued at £30,000.—*Emmanuel; Tomlinson; Mason.* See Precious Stones.

SAPRIA GRIFFITHII, a plant closely allied to *Rafflesia*, which was discovered in the Assam mountains by Griffith, is the most remarkable form known to occur there.

SAPTA. SANSK. Seven. Saptag, the octave in music. Sapta Matri, a name of Brahmi or Chamunda. Saptaswa, the seven-headed horse that draws the chariot of Surya, the sun. Sapt-

Gandak, the feeders of the Gandak, and Sapt-Kausika, the Nepalese term for the seven alpine feeders of the river Cosi. Sapta Sindhava, the seven rivers, applied to the Panjab, but also to other rivers and seas of India. Virgil says (*Æneid*, ix. p. 30), 'Ceu septem surgens sedatias amnibus altus per tacitum Ganges.'

SAPU TANGANG. MALAY. A kerchief for the head. Sapu-Tangan Siri, a handkerchief.

SAR. HIND., PERS. The head, chief, principal; often employed to form compound words. Sardar, a chief; Sar-kar, a government, a head servant; Sarhad, a boundary; Sarashtadar, the head of a department; Sar-band, head-binder, is the source of the turband, the s being changed into t.

SAR. BALUCH. The Northern Indus, from the junction of the Panjab rivers to the town of Sihwan. It is also a Slavonic word. Gatterer and Niebuhr mention that Sauromate means Northern Medes, and north of the Caucasus were the province and tribe of Siracene.—*Elliot, Hist.*

SARACA INDICA. *Lim.*

Thaw-ka-hpo, . . . BURM. Jassundi, . . . MAHR.
Ashunkar, . . . CAN. Diyera tembela, . . . SINGH.

The *Jonesia asoka*, *Roxb.*, the asok tree, is a small tree cultivated throughout India and Burma for its handsome flowers. Its wood is light and of a reddish-brown colour. *S. lobbiana*, *Baker*, is a tree of Martaban, and *S. triandra*, *Baker*, of Tenasserim.

SARACEN, a name given by the older Christian writers to the Arabs. It is from Sahra, the desert, and Zadan, to traverse.

SARAF. HIND. A money-changer or banker.

SARAI. HIND. A caravansary, a building for the shelter and accommodation of travellers. Sarai, as in Ak-sarai, means a palace, a large edifice. It is a purely Persian word, and has been adopted into the English language under the word Caravansary (*Karawan sarai*). There are many Sarai throughout British India, but few of them have gathered towns about them. The Tamil term Chattram corresponds with the Sarai in Anglo-Tamil Choultry.

SARAKHS, an ancient city of Khorasan, situated about midway, or six days' journey, between Merv and Naishapur.

SARAN, a district in Bengal, lying between lat. 25° 40' and 26° 38' N., and between long. 83° 58' and 85° 14' E. The chief aborigines, Bhar, number 7647; the Chamar, 94,844; the Dasadh, 73,046; and the Bind, 18,429. The most numerous caste is the Goala, herdsmen. They bear a bad character for turbulence and dishonesty. The Koeri (141,209) are the best cultivators in the district, holding most of the opium lands, from which they raise first-rate crops; and the Kurmi (100,790) are also an agricultural caste.

SARANGI, a stringed musical instrument of Hindus and Muhammadans; a violin.

SARANJAM. PERS. Utensils, furniture; remuneration for services.

SARANYU of the Vedas, Varuna of the Hindus, is the Greek Erinyes and Ouranos.

SAR-a-PA. PERS. A suit of garments presented by Muhammadan princes to those whom they intend to honour; literally, from head to foot.

SARAS, HIND., also Surluus, Grus antigone, occurs all over British India. They may be seen in pairs, now plunging their bills into the shallow waters, now scattering pearly drops from their

throats. The natives of India strongly object to shooting these birds, about which they have a multitude of curious stories. There is a prevalent idea that if one of a pair be killed, the survivor will return again and again to the spot to hover over it. It is perhaps less exclusively a grain feeder than some other species, and is generally met with not far from water. Its fine trumpet-like call, uttered when alarmed or when on the wing, can be heard a couple of miles off. In many parts of the country it is so confiding and fearless in its habits, as to prevent the sportsman from shooting it, and in the territories of Holkar it is said to be esteemed so highly as to be held sacred from the shikaris. In Australia the place of the Saras is occupied by the Australian crane, the *Grus Australis*.—*Burton's Falconry*, p. 58; *Jerdon*.

SARASWATA, a tribe of Brahmans who originally dwelt on the banks of the river Saraswati, and are now met with in the Panjab and other parts of Northern India. They are usually fair complexioned, tall, and handsome men. They seem to take their appellation from a rishi named Saraswata, and the Hindu tradition is that during a famine the Vedas became forgotten by all but Saraswata, to whom, at the close of the scarcity, Brahmans repaired, and 60,000 disciples again acquired a knowledge of the Vedas. This legend seems to indicate the introduction or a revival of Brahmanism.—*Garrett*.

SARASWATI. In India there are three rivers of this name.

Saraswati or Sarsuti, a sacred river of the Panjab, frequently mentioned in the Vedas. It rises in lat. 30° 23' N., long. 77° 19' E., in the low hills of Sirmore State; emerges upon the plain at Zadh Budri in Ambala, a place esteemed sacred by all Hindus; passes by the holy town of Thanesar and the numerous shrines of the Kurukshetra, a tract celebrated as a centre of pilgrimages; enters Karnal district and Patiala State, and finally joins the Ghaggar in Sirsa district (lat. 29° 51' N., long. 76° 5' E.). In ancient times the united stream below the point of junction appears to have borne the name of Sarsuti, and, undiminished by irrigation near the hills, to have flowed across the Rajputana plains, debouching into the Indus below its confluence with the Panjab rivers. The Hindus identify the river with Saraswati, the Sanskrit goddess of speech.

On the banks of the Caggar Saraswati the Aryan race came into contact with others, caste became recognised, but their descendants on the banks of that river have never adopted the high Hinduism of the Brahmans of the Gangetic valley, and continue agricultural.

Saraswati of the Sanskrit writers, in Zend became Haraquaiti, and in Greek 'Αραχωΐς, all of which agree in the last two syllables with the Chinese Tsakuta.

Another Saraswati river, rising in Mount Abu, Rajputana, flows through the Palanpur and Radhanpur States of the Mahi Kanta Agency.

Saraswati river of the Hoogly district, Bengal, was formerly the main stream of the Ganges, and navigable by large vessels as far as Satgaon. It has silted up and become a foul shallow creek.—*mp. Gaz.* viii.

SARASWATI, a Hindu goddess, the wife, or sakti, or female energy of Brahma, is analogous in western mythology to Minerva, the patroness

of learning, etc. Saraswati is the Hindu goddess of learning, music, and poetry, and is also called Brahmi or Brahmini, the goddess of the sciences; and Bharadi, the goddess of history. She is sometimes represented as a white woman standing on a lotus or water-lily, holding a lute (or vina) in her hand, to show that she is also the goddess of music; at others, riding on a peacock, with the same emblem in her hand. Although the worship of Brahma has fallen into disuse, the annual festival of Saraswati, in the fifth day of the month Magha, is highly honoured. This day is called Sri-panjani, and Saraswati or Sri, the goddess of arts and eloquence, is worshipped with offerings of perfumes, flowers, and dressed rice; even implements of writing and books are treated with respect, are not used on this holiday, and are presented to the image of this goddess. Saraswati is, among other deities, especially propitiated in the marriage ceremonies of the Brahmans. The following hymn is chanted in her honour:—'Charming Saraswati! swift as a mare, whom I celebrate in the face of this universe, protect this solemn rite. O thou! in whom the elements were produced, in whom this universe was framed, I will now sing that hymn' (the nuptial text), 'which constitutes the highest glory of women.'—*Colebrooke*, *As. Res.* vii. p. 303; *Moor*, *Hindu Pantheon*, p. 128; *Cole*, *Myth. Hind.* p. 10; *Menu*, ch. iii. v. 121.

SARATH, Buddhist ruins in the Benares district of the N.W. Provinces, distant 3½ miles north of Benares city; Sakya Muni first preached his doctrines here.—*Imp. Gaz.*

SARAWAK, in Borneo, is situated in a bay to the eastward of Point Api, at the foot of a range of mountains from 1500 to 3000 feet high, extending towards the interior of the island. The Sarawak government acquired the coast territory from Cape Datu to the river Barram. The banks of the river of Sarawak are everywhere covered with fruit trees; the mangosteen, lansat, rambutan, jambou, and blimbing are all abundant, but the durian is most so and most esteemed. A beautifully resplendent sand, the particles of which resemble amethysts and topazes, is found at Lingah, a branch of the great Batang Lupar river, not far from its mouth. Sago is manufactured at Muka, and antimony is found at Bassein in Borneo.—*Low's Sarawak*.

SARAWAN, a province in Baluchistan. The great central mountain range or table-land running north and south comprises the provinces of Sarawan, Jhalawan, and Lus. See Baluchistan.

SARAWI, a sect of the fakirs of India.

SARCOCEPHALUS CORDATUS. *Roxb.*

Nauclea cordata, *Roxb.* | *N. condunata*, *Sm.*

This tree, the Bakmee of the Singhalese, is very common in the southern parts of Ceylon on the banks of streams; it flowers in May and June. The wood is light and tough, and in use for sandals, common furniture, doors, etc. An Australian tree is described under this name in *Bentham's Fl. Aust.* iii. p. 402, but it must be a different species. The size of the larger cordate leaves of *S. cordatus* are often about one foot long, and upwards of 8 inches broad.—*Beddome, Fl. Sylv.*

SARCOCHLAMYS PULCHERRIMA. *Gaud.*

Urtica pulcherrima, *Roxb.* | *Tsa-tya*, *Sap-aha*, *Burm.* A large handsome shrub of E. Bengal and

SARCOCLINIUM HOOKERI.

Burma. Its liber gives a good fibre for ropes.—*Gamble*.

SARCOCLINIUM HOOKERI. *Thw.* Mahabairoo-gassa, SINGH. A moderate-sized tree near Eknalagodde, in the Ratnapura district of Ceylon, at no great elevation.

Sarcoclinium longifolium, *W. Ic.* Bairoo-gass, SINGH. A tree of the Central Province of Ceylon, growing at an elevation of 4000 to 6000 feet. The leaves are of a firm consistence, do not rapidly decompose, and are used by the Singhalese for thatching.—*Thw.*

SARCOCOCCA PRUNIFORMIS. *Lind.*

S. trinervia, *Wight Ic.* | Shial, Shila, . . . HIND.

A tree of the central province of Ceylon, very abundant at an elevation of 5000 to 8000 feet. It is extremely variable in the shape of the leaves, which differ from nearly orbicular to narrow-lanceolate acuminate. *S. trinervia*, or Neilgherry boxwood tree, very common on the Neilgherries; wood hard, durable, might be used as common boxwood in the arts. *S. Hookeriana*, *Baill.*, is of Sikkim; and *S. saligna*, *Mull.*, of Kamaon, has a white wood used for walking-sticks.—*Thw.*; *M'Ivor*.

SARCOCOLLA. Anzarut, ARAB. Runjudeb, PERS. A sub-acid, sweetish, and somewhat nauseous gum-resin, produced in North Africa, Persia, and Arabia by the shrubs *Penæa sarcocolla*, *P. mucronata*, and other species. It is yellow or reddish, like gum-arabic, in oblong globules the size of a pea or of grains of sand, friable, opaque or semi-transparent, softening but not melting by heat; sp. gr. 1268. *Sarcocolla* was once deemed a powerful healer of wounds (*σαρκῆ*, flesh, and *κόλλα*, glue), but this idea has been long abandoned. It is rarely met with in India, and then only brought from Persia and Arabia.—*O'Sh.*; *Powell*; *Faulkner*.

SARCODACTYLIS ODORATA. *Smith.*

Kau-yuen, . . . CHIN. | Huang-yuen, . . . CHIN.
Fu-kau-shan, . . . , | Buddha's citron, . . . ENG.

A tree of several parts of China. Its yellow fruit in some place attains a very large size, and the capsules of the fruit separate naturally.—*Smith*.

SARCOSTEMMA, a genus of plants of the order Asclepiaceæ, of which *S. acidum* and *S. viminalis* occur in India. The name is from *σαρκῆ*, flesh, and *στεμμα*, a crown, in reference to the leaflets of the inner corolla being fleshy.

Sarcostemma acidum, *W. Contr.*

S. brevistigma, *W. Contr.* | *Asclepias acida*, *Roxb.*
Brami, Shomluta, . . . BENG. | Pullatige, Soma luta, TEL.
Soma, Soma, . . . HIND. | Tige jenuadu, . . . ,
Muwa kiriya, . . . SINGH.

This leafless plant grows in rocky, sterile places all over India. The plant yields an abundance of a mildly acidulous milky juice, and travellers suck its tender shoots to allay thirst. This is the Soma or Som plant of the Vedas, and it obtained this name from the ancient Hindus because they gathered it by moonlight, carried it to their homes in carts drawn by rams, and a fermented liquor was prepared by mixing its juice, strained through a sieve of goat's hair, with barley and ghi. This wine was drunk at all their religious festivals, and was used by the *riahi* as an intoxicant. The *riahi* continued it at their meals with beef. The Rig Veda, ix.,

SARDINE.

says, the purifying Soma, like the sea rolling its waves, has poured forth songs, and hymns, and thoughts.—*Roxb.*; *W. Ic.*; *Voigt*; *Birdwood*.

Sarcostemma viminalis, *R. Brown*, the Soma or Soma luta, is a plant of all British India, Sind, and Baluchistan. It is a leafless plant, resembling the *Euphorbia tirucalli*; flowers white in the rains. The natives tie the stems up in a bundle, and place them in the water-course of their wells for the purpose of preventing the attack of white ants.—*Riddell*; *Voigt*.

SARCOSTIGMA KLEINII, its oil, long known under the name of Poovana and Poovengah, is used largely on the western coast of the Peninsula of India as an external applicant in rheumatism.—*M. E. J. R.*

SARDAB. PERS. An underground room which the people of Baghdad occupy in the hot weather. Except in British India, most houses in the hot countries of the east are provided with subterranean chambers, called *sardab* (literally cold water), to which the family retire during the heat of the day. They are often furnished with the greatest luxury, and their refreshing coolness is increased by the play of fountains, and punkahs or large fans hung from the ceiling. This is the favourite place for the ladies' afternoon siesta.—*Ed. Ferrier, Journal*, p. 292.

SARDANAPALUS, of the Roman historians, was Assur-banipal, the son of Esarhaddon, and the greatest of the Assyrian monarchs, who reigned B.C. 671 to about 626.

SARDHANA, a town in the Meerut (Mirath) district of the N.W. Provinces of British India, in lat. 29° 9' 6" N., and long. 77° 39' 26" E.; pop. (1872), 12,466. Walter Reinhard, a soldier of fortune, better known by the name of Samru or Sombre, was a butcher by his trade, and a native of Luxemburg. He came to India as a soldier in the French army, and deserting that service, took employment with the British, where he attained to the rank of sergeant. Deserting again, he rejoined the French service at Chander-nuggur, and on the surrender of that settlement accompanied M. Law in his wanderings throughout India, from 1757 to 1760. For the latter year, Law's party joined the army of Shah Alam in Bengal, and remained with the emperor until his defeat in 1760 at Gaya, by Colonel Carnac, in his attempt to reconquer Bengal from the nawab. Samru took refuge with a succession of new masters, and was ultimately presented with Sardhana, where he died in 1778, leaving the Begum Samru as his widow and heir. This lady, in 1834, devoted £15,000 to the foundation of a clergy fund and poor fund; and her name now stands first in Archdeacon Pratt's Endowments of the Diocese of Calcutta. The litigation connected with her property was not finally settled till more than a third of a century after her death.—*Imp. Gaz.*

SARDINE. ENG., FR., IT. Sardellen, . . . GER. | Sardinas, . . . SP.

The sardine fish of commerce is found in the Mediterranean, where its fishery employs a great number of people. In the Asiatic seas there are fishes of the same or allied genera. *Engraulis melleus*? is a small fish of the herring family at Tavoy and Mergui, which is nearly related to the common sardine.

The sardine of Penang is the *Dussumieris*

acuta, *Cuv. and Val.*, the Tambat Bulat of the Malays, also the Clupeonia perforata, the Ikan tamban of the Malays.

Sir J. E. Tennent mentions that Sardinella Neohowii, *Val.*, frequents the southern and eastern coast of Ceylon in such profusion, that in one instance, in 1839, 400,000 were taken in a haul of the nets in the little bay of Goyapanna, east of Point de Galle. As this vast shoal approached the shore, the broken water became as smooth as if a sheet of ice had been floating below the surface. *S. lineolata, Cuv. and Val.*, and the *S. leiogaster, Cuv. and Val.*, are found at Trincomalee, also off the coast of Java. Another Ceylon fish of the same group, a Clupea, is known as the poisonous sprat. The sardine has the reputation of being poisonous at certain seasons, and accidents ascribed to eating it are recorded in all parts of Ceylon. Whole families of fishermen who have partaken of it have died. Twelve persons in the jail of Chilau were thus poisoned about the year 1829; and the deaths of soldiers have repeatedly been ascribed to the same cause. An order passed by the Governor in Council in February 1824, after reciting that, 'Whereas it appears by information conveyed to the Government that at three several periods at Trincomalee, death has been the consequence to several persons from eating the fish called Sardinia during the months of January and December,' enacts that 'it shall not be lawful in that district to catch sardines during these months, under pain of fine and imprisonment.' This order is still in force, but the fishing continues notwithstanding. The poisonous fish of this family which occurs in the Asiatic seas, is, however, the *Meletta venenosa*.—*Tennent's Ceylon; Mason; Jour. Ind. Arch.*

SARD-SAIR. PERS. A term in use amongst the nomadic races of Persia to indicate the locality to which they drive their herds in summer; the garm-sair is their winter quarters. In the south of Persia, a huge wall of mountains separates the garm-sair, or low region, from the sard-sair. Sard-sair signifies the cold region, but it is also termed the Sarhadu, a word literally signifying boundary or frontier, but generally applied to any high land where the climate is cold, as on the high table-land of Persia. One of the most conspicuous of these is an abrupt lofty hill, named Hormooj, where coal occurs.

SAREE. HIND.

Shiali, CAN. | Pudawi, TAM.
Lugra, MAHR. | Chira, TEL.

The saree is the lower garment worn by most of the Hindu and non-Aryan women in India. It is, in fact, the national costume of almost all Hindu women. The Muhammadan women of Hyderabad in the Dekhan, Oudh, Rajputana, the N.W. Provinces, and the Panjab, and many Hindu women, whether secluded or otherwise, wear the voluminous petticoat, or gown, introduced by the Muhammadans; but from Rajputana southwards to Cape Comorin, Bengal, and Orissa, all adhere to the ancient national costume of the saree, and this article of woman's dress only varies with local taste as to colour, length, and breadth, and fineness or closeness of texture. It is an entire cloth, in many cases 18 yards long and about a yard broad; and the texture varies from the finest and most open character of muslin in Bengal and the south of India, to the still fine

but closer texture of the Dekhan, Central India, and Gujerat. Sarees are of all qualities, to suit the very poorest as well as the very richest classes of society, the ordinary labourer and the princess, and are obtainable for 2s. each up to £100 of value. In the manner of tying and wearing this garment there is little difference anywhere. The cloth, which has one plain end, is passed around the loins, and the upper border tied in a strong knot; the cloth is then passed two, three, or even four times round the waist, to form a petticoat. A portion is then plaited neatly into folds, and tucked in before, so as to hang down in front to the instep, or even lower. The remainder of the cloth is passed across the bosom over the left shoulder and head, on which it rests, the ornamented ends falling partly over the right arm below the waist. In the south of India, however, the end does not pass over the head; it is drawn tightly over the left shoulder and bosom, and tucked in to the waist behind, or on the right hip. The ancient female costume of Egypt, a saree or single robe, appears to have been put on and worn in precisely the same manner without a bodice. Well-to-do women of the Dekhan and the south frequently wear a gold or silver zone, according to their circumstances, which, passing over all, confines the drapery to the waist in graceful folds. This zone appears unknown to the northward, but in many cases it is beautifully wrought, and extremely ornamental. The sarees are largely made of silk in Benares; but the multitude have them of cotton, some of cotton and silk, with borders of gold or silk. Each woman of a household usually gets a new saree once a year. The saree, with a small sleeved bodice, completes a lady's attire; the higher the class of the lady, the lower her saree will hang. Women of the labouring caste seldom wear the saree below their knees. In the Nagpur country every modest Hindu woman drapes one fold of her saree over her head, whereas, in the Konkan, respectable ladies have their heads uncovered. Gond women always keep the head uncovered; some of them wear chignons, and all wear jungle flowers in their hair on festivals.

The Mahratta women, and women engaged in labour, often make the saree take a very ungraceful form, by passing it between the legs, in which it assumes the appearance of tight trousers. Viscountess Falkland (Chow-Chow, p. 7) describes a group of Bombay women, with their heavy anklets making a tinkling with their feet (Isaiah iii. 16), each with their saree folded over their heads and persons, and carrying little chubby children on their shoulders, or astride on their hips; and now these are lost to sight, and a fresh group appears, consisting of Hindu women of various castes, clothed in jackets and the sarees of divers colours, and wearing the chains and the bracelets, the ear-rings, the rings, and the nose-jewels (Isaiah iii. 19-21); one end of the saree forming a very voluminous kind of skirt or petticoat, the other end being drawn over the head and shoulders, somewhat in the style or form of a Maltese faldetta.

SARGASSUM BACCIFERUM, *Agh.*, or gulf-weed, covers all the Gulf Stream from lat. 22° to 36° N., and long. 35° to 65° W. It is in enormous quantity, floating in an eddy of the

SARGUJA.

Atlantic to the west of the Azores, from lat. 20° to 36° N., and again west of the Bahamas. It is often thrown up on the shores of S. Asia. Its name is from *Sargasso*, *Sp.*, weed. Midway in the Atlantic between the Azores, Canaries, and the Cape de Verde Islands, are vast masses. Oviedo calls them *Praderias de Yerva*. It is of a greenish-yellow colour, is abundant on the Florida reefs, but continues to vegetate as it floats about in the circular currents after it has been torn from its attachment. The masses give shelter to a great number of fish, molluscs, and crustacean animals,—the pipe fish, *Syngnathus acus*; the elegant *Cranchia scabra* and *Scytloea pelagica*; also *Loligo laticeps*, *Owen*; *Octopus semipalmatus*; numerous crabs; the paper nautili, *Argonauta hians*, with their inhabitant *Ocythoe Cranchii* of Leach, and its cluster of ova.—*G. Bennett*, p. 36.

SARGUJA, the largest of the Native States of Chutia Nagpur, Bengal, lies between lat. 22° 37' 30" and 24° 6' 30" N., and between long. 82° 32' 5" and 84° 7' E. Area, 6103 square miles; pop. in 1872, 182,831. The Mainpat is a magnificent table-land 18 miles long, from 6 to 8 broad, and 3781 feet above sea-level; and the Jamirapat is a long winding ridge, about 2 miles wide. The chief peaks in the State are Mailan, 4024 feet; Jam, 3827; and Partagharas, 3804. The Gonds and Uraons number 73,256, or 40·1 per cent.; the Kolarian tribes, 9,416, or 21·5 per cent.; Hindus, 68,789, or 37·6 per cent.; Muhammadans, 1370, or 0·8 per cent. of the total population. The Gour race on the east of the Gond extend into the borders of the Chutia Nagpur Agency in Udaipur and Sarguja, and the Sarguja raja is supposed to be a Gour, though claiming to be a Rajput. They are much Hinduized.

SARHAD, the principal range of mountains in the Kohistan of Baluchistan, situated between lat. 29° and 30° N., and visible from a distance of 80 or 90 miles. It is occupied by tribes of Kurds.—*Pottinger's Tr.* p. 140.

SARHIND. The present ruins of Sarhind consist almost entirely of Muhammadan buildings of a late period; but it must have been a place of some consequence in the time of the Hindus, as it was besieged and captured by Shahab-u-Din Gori, the first Muhammadan king of Dehli. The name of Sarhind, or frontier of Hind, or perhaps Northern Hind, is popularly said to have been given to the city at an earlier period, when it was the boundary town between the Hindus and the later Muhammadan kingdom of Ghazni and Lahore. But the name is probably much older, and seems to mean Northern India, as the astronomer Varaha Mihira mentions the Sarindha immediately after the Kuluta, or people of Kullu, and just before Brahmapura, which, according to the Chinese pilgrim Hiuen Tshang, was the capital of the hill country to the north of Hardwar. But the geographical list of Varaha Mihira is copied almost verbatim from that of the still earlier astronomer Parnasara, who is believed to have flourished not later than the first century after Christ. The town called Band, or Bando, was probably the contracted form of Bhatasthala, and General Cunningham is inclined to think that Sarhind must be the place indicated by the pilgrim as the capital of the ancient district of *Andhra*.—*Cunningham's Ancient Geog. of India*.

SARNATH.

SARI, also Sarri. *SIND*. A necklace of gold beads worn by Hindu mendicants.—*Burton's Sindh*, p. 393.

SARI, an old city of Masandaran, which is celebrated in the legends of Afrasiab. In the 18th century, there were still to be seen at Sari four ancient circular temples, each 30 feet in diameter and 120 feet high. In the time of the kings of Persia, Sari had been the seat of an officer called the Great General of the East.—*Malcolm*, p. 42; *Yule's Cathay*, i. p. 88.

SAR-i-PUL is 100 miles S.W. of Balkh and 300 miles N.E. of Herat, a confused collection of houses and tents, with 18,000 souls, two-thirds of them Uzbaks, the rest Hazara. The chief is an Uzbek.

SARIPUTRA was the right-hand disciple of Buddha. We learn from Hiuen Tshang that Sariputra was born at Kalapinaka, about halfway between Nalanda and Indra-Sila-Guha, or about 4 miles to the south-east of the former place. The new town of Rajagriha is said to have been built by king Srenik, otherwise called Bimbisara, the father of Ajatasatra, the contemporary of Buddha. Its foundation cannot therefore be placed later than B.C. 500, according to Buddhist chronology. The remains at Baragaon consist of numerous masses of brick ruins, amongst which the most conspicuous is a row of lofty conical mounds running north and south. These high mounds are the remains of gigantic temples attached to the famous monastery of Nalanda. The great monastery itself can be readily traced by the square patches of cultivation amongst a long mass of brick ruins, 1600 feet by 400 feet.—*Conn. Anc. Geog.* p. 467.

SARKA, Sarkanda, Sarkara, Sara. *HIND*. A grass growing in moist places; the flower-stalk of the moonj grass, *Saccharum munja*, used by weavers, and made into rope.

SAR-KAR. *HIND*. The State, the Government of a country, also a province or revenue division, as the Northern Circars, comprising the districts of Ganjam, Vizagapatam, Godavery, Kistna; also, in Bengal, a native servant who keeps the household accounts. Sar-karkun is the head revenue or custom-house clerk.

SAR-KAT. *HIND*. A reed used to make coarse screens or chiks. The Bhils make good arrows from it.

SARKHI SARWAR, a large village in the Dehra Ghazi Khan district, where there is a tomb of a Muhammadan saint, Sarkhi Sarwar, whose father was an attendant at the tomb of Mahomed at Medina. Many pilgrims visit the shrine.—*MacGregor*, iii. p. 62.

SARNA, amongst the Kol, a sacred grove.

SARNAI, a bagpipe; an inflated goat-skin for swimmers.

SARNATH, in the Benares district of the N.W. Provinces, has Buddhist remains. In 1835-36, Major Cunningham excavated numerous Buddhist images here. He found quantities of ashes also, and there could be no doubt that the buildings had been destroyed by fire. Major Kittoe, who subsequently made further excavations, was of the same opinion. The Buddhist religion had evidently assumed the form of the heresy of a weaker party, who were forced to hide their images under ground, and were ultimately expelled from their monasteries by fire. Inscriptions

on images of Buddha from the temple at Sarnath, at Benares, and on an image from Bakhra, in Tirhut, are in Sanskrit, but not pure. The date is after A.D. 800, and that of Sarnath probably of the eleventh century. From copper-plate inscriptions found near Sarnath, it is conjectured that the Buddhist temple was erected by the sons of Bhupala, a raja of Gaur, in the eleventh century. The Choukandi, or Luri-ka-kodan, in the town of Sarnath, is so called from the leap from its top of an Ahir, by the name of Luri. It is a lofty mound of solid brickwork, surmounted with an octagonal building. Hiwen Tsaung describes this tower to have been no less than 300 feet in height.—*Tr. of a Hind. i. p. 295.*

SARNESWARA, lit. the lord over all; a name used for the true God by the Roman Catholics.

SARONG. MALAY. A petticoat, 6 feet long and 5 feet broad, used by both sexes; serves as a complete wrapper; often the sole article of dress. It is of cotton, or silk, or of cotton and silk. It is wrapped round the lower part of the body as a petticoat. Javanese women draw figures on their sarong to express their thoughts and emotions. The sarong is worn by men and women, only that of a woman is deeper. The sarong when united is called a salendang, a woven or printed fabric imported into the Dutch ports of the Eastern Archipelago. There are imitation Battik sarongs, and Turkey-red sarongs.—*Bikmore; Simmonds.*

SAROSANTHERA LASIOPETALA. *Thw.*
Oleyralasiopetala, W. Ill. | Euryalasiopetala, Gardner.

A moderate-sized tree, common in the forests of the central province of Ceylon at an elevation of 6000 feet and upwards.—*Thw.*

SAROSH, an angel of the Parsees. Sarosh-baz, a prayer recited in his name.

SARPA, the serpent, so called in Sanskrit because it was conceived under the general idea of creeping, an idea expressed by the word *Srip*. It is referred to the root *Sar*. This root is the origin of the general term serpent, and it is found in the name of the mythical hero Sarpedon, the Lycian chieftain in the *Iliad*, and also in the Vedic *Sarama*, which again is the dawn as spreading over the heaven with its broad flush of light. But the serpent was also called *Ahi* in Sanskrit, in Greek *Echis* or *Echidna*, in Latin *Anguis*; this is derived from *Ah* in Sanskrit, or *Anh*, which means to press together, to choke, to throttle. Here the distinguishing mark from which the serpent was named was his throttling, and *Ahi* meant serpent, as expressing the general idea of throttling. This root *Anh* still lives in several modern words. But in Sanskrit it was chosen with great truth as the proper name of sin. Evil no doubt presented itself under various aspects to the human mind, and its names are many, but none so expressive as those derived from the root *Anh*, to throttle. *Anhas* in Sanskrit means sin, but it does so only because it meant originally throttling,—the consciousness of sin being like the grasp of the assassin on the throat of his victim.—*Muller's Lectures*, p. 366.

SAR-PECH or *Sarpesh*. HIND. An ornament worn on the turband of Indian nobles. It consists of a band 2 or 2½ cubits long of square pieces of gold plates threaded together, each plate being set with precious stones. It encircles the turband two or three times.

SARPUN, in *Hundes*, a Chinese officer, a

captain of police. The *Shib chid* is a Chinese official in *Hundes*, residing in the province of Bood, a month's march from Gartok.

SARSAPARILLA.

Oshba, Muckwy, . . . ARAB.	Shariva, SANSK.
Ku-ku, Chin-a h'po, BURM.	Erramasumal, . . . SINGH.
Salsepareille, FR.	Irimusa,
Mugrabu, HIND.	Nunnarivayr, . . . TAM.

Sarsaparilla is from the Spanish words *Sarz*, a bramble, and *Parilla*, a vine. The *sarsaparilla* in use in medicine is composed of the roots of various species of *Smilax*. *S. officialis* is a native of South America. Varieties of this root are also found in the south of Europe. East Indian *sarsaparilla* belongs to the *Hemidesmus Indicus*; it is abundant and cheap, partakes largely of the qualities of the true *sarsaparilla*, and is extensively employed as a substitute, as also is *S. China*. This and *Ichnocarpus frutescens*, also used as *sarsaparilla*, are common on the slope of the Neilgherries. Dr. A. J. Scott forwarded to the Madras Exhibition a crystallized principle called *Hemidesmine*, exhibiting a remarkable indifference both to acids and alkalies, crystallizing in a peculiar manner in hexagonal plates, which are subject to rapid efflorescence. The only ascertained solvents are alcohol and ether. It is perfectly insoluble in water, both cold and hot.

SART. ARABO-HINDI. A gig or buggy, corruption of Arabic *Shart*, a wager, a bargain, a horse race.

SART, the name applied by the Turks to the Tajak aborigines of Trans-Oxiana. The *Sart* or *Tajak* from time immemorial have occupied the tract in Central Asia which has as boundaries Siberia, India, Persia, and China. The *Tajak* is Iranian. He is met with in largest numbers in the khanate of Bokhara and in Badakhshan, but many have settled in the towns of Khokand, Khiva, Chinese Tartary, and Afghanistan. The *Tajak* is of a good middle height, has a broad, powerful frame of bones, and especially wide shoulder-bones, but they diverge from the Iranian; they have the Turanian wider forehead, thick cheeks, thick nose, and large mouth. The *Tajak* originally came from the sources of the *Oxus*, in the steppe of Pamir. The term is from *Taj*, a crown, the fire-worshipper's head-dress. But the *Tajak* does not so style himself, and regards the term as derogatory. The *Tajak* is covetous, unwarlike, and given to agriculture and trade; fond of literary pursuits, and polished, and it is owing to their preponderance in Bokhara that that city has been raised to the position of the headquarters of Central Asiatic civilisation, for there, from pre-Islamic times, they have continued their previous exertions in mental culture, and, notwithstanding the oppressions which they have sustained from a foreign power, have civilised their conquerors. Most of the celebrities in the field of religious knowledge and belles-lettres have been *Tajaks*, and at the present day the most conspicuous of the mullah and ishan are *Tajaks*, and the chief men of the Bokhara and Khiva court are *Tajak*, or, as the Turks style the race, *Sart*. Vambéry considers the *Tajak* and *Sart* identical, but he recognises that in their physiognomic peculiarities the *Sart* differs greatly from the *Tajak*, being more slender, with a larger face and a higher forehead; but these changes Vambéry attributes to frequent intermarriages

SARUN.

between Sart men and Persian slaves. In Khiva they number 20,000 families, all engaged in trade, industrial pursuits, and rearing silk-worms. They have fine beards, but are unwarlike, unacquainted with the management of horses or the use of arms.—*Collett, Khiva; Cent. Asia; Vambery.*

SARUN, a district in the Patna division of Bengal, lying between lat. 27° 29' and 35° 40' N., and long. 83° 55' and 85° 30' E., bounded on the N. and N.W. by Nepal, on the E. by Tirhut, on the S.W. by the Ganges, and on the W. by Gorakhpur. Its area, 6394 square miles; population, about 1,000,000. Its chief civil station is Chupra, a town built on the left bank of the Ganges, in lat. 25° 45' N., and long. 84° 48' E., and 370 miles from Calcutta.

SASA. TEL. Pl. Sasalu. Grains of rice mixed with turmeric or other colouring ingredients, which is cast over the heads on auspicious occasions.

SASALADALA. SINGH. Literally the shaking leaf; one of the names of the Bo Tree, the *Ficus religiosa*. Its leaves are almost constantly tremulous.—*Forbes.*

SASANA. SANSK. Shasana, TAM. A stone or brass or copper plate on which memorial inscriptions, grants to religious bodies, temples, etc., are engraved; title-deeds, a royal grant.

SASARKUND is a pool in the Mahur jungle, where the Pain Ganga is said to be engulfed. The Naikude Gond repair there in pilgrimage, in the month Chaitra, to a huge stone that rises in a gorge, and goes by the name of Bhim Sen, before which the Naikude Gond mingle with Raj Goud and Kolam in worship. Towards evening the worshippers cook a little rice, and place it before the god, adding sugar. Then they smear the stone with vermilion, and burn resin as incense, after which all offer their victims, sheep, hogs, and fowls with the usual libations of arrack. The pujari appears to be inspired, rolls his head, leaps wildly about, and finally falls down in a trance, when he declares whether the god has accepted the services or not. At night, drinking, dancing, and beating tomtoms goes on, and in the morning they return home after an early meal. Those unable to leave home perform similar rites beneath a Mahwa tree.

SASSAFRAS PARTHENOXYLON is a lofty timber tree growing in the forests of Sumatra. The bark is rough and brown. The fruit has a strong balsamic smell, and yields an oil, considered useful in rheumatic affections. An infusion of the root is used in medicine. Sassafras bark of Tasmania (*Atherosperma moschata, Lab.*), used in remote parts of the colony as tea, also affords an essential oil.—*Eng. Cyc.*

SASSANIAN KINGS of Persia. The following are the dates given in Dr. Smith's Dictionary, with Dr. Mordtmann's latest determinations of the genealogical history of this race, who ruled in Persia A.D. 226 to 632.

Smith. Mordt.	A.D.	A.D.
226	226	Ardashir Babagan bin Sassan, or Artaxerxes.
240	238	Shappuhr, Shahpur, or Sapor, captured Valerian.
273	269	Hormuzd or Hormisdas.
274	271	Bahram or Varanes I.
277	274	" " II.
294	291	" " III., Segan Shah.

SATANI.

Smith. Mordt.

A.D.	A.D.
294	291 Narse or Narses, conquered Armenia and Galerius.
303	300 Hormuzd or Hormisdas II.
310	308 Shahpur or Sapor II.
381	380 Ardashir or Artaxerxes II.
385	383 Shahpur or Sapor III.
390	389 Bahram or Varanus IV., Kerman Shnh.
404	399 Yezdejird or Izdejerd I.
420	420 Bahram Gor or Varanes v., visited India.
448	440 Yezdejird or Izdejerd II.
458	457 Hormuzd or Hormisdas III.
458	458 Firoz or Perose, allied with Khakan of Huns.
484	485 Balas, Palash, or Balasces.
488	491 Kobad or Caodes.
498	498 Jamasp (Kobad recovers kingdom 502).
531	531 Khosru, Kesri (Nushirvan), or Chosroes.
579	571 Hormuzd or Hormisdas IV.; deposed by his general, Varanus VI. A.D. 590; M., A.D. 591.
591	591 Khosru Parvez, Kesri, or Chosroes II., put to death by
628	623 Kobad Shiruyieh or Siroes.
	629 Ardashir III., anarchy.
	629 Shariar or Sarbazas.
	629 Puran Dukht.
	631 Azermi Dukht.
	631 Ferokhzad Bukhtyar.
	632 Yezdejird or Izdejerd III., overthrown by Muhammadans 641.

This monarchy commenced in Persia in the year A.D. 226, when Artaxerxes overthrew the Parthian dynasty, and it continued until itself overturned by the Muhammadan khalifs in the year A.D. 632. The founder of the Sassanian dynasty died in 240. In his latter days a certain Arpop was king of China, one of whose sons, Mamkon by name, fled from home on account of a charge brought against him, and took refuge in Persia.—*Prin. Ind. Ant. p. 13; Thomas' Prinsep, i. p. 302; Yule, Cathay, i. p. 84.*

SASSETTI. Philip Sasseti, an Italian, visited India at the end of the 16th century. He studied Sanskrit, and noticed the resemblances between Sanskrit and Italian.—*Soyce, i. p. 43.*

SASTRA. HIND. An order, a command, a Hindu scripture, a religious work; Dharma Sastra, the code of Menu, or any book on law or science, religious books of the Hindus in general, and more especially certain philosophical systems, six in number. Also, as Sastri, a Hindu skilled in the Sastras, the literary title of a learned Hindu, as Ranganadham Sastri. It is written and pronounced Shastri, and in the south of India is the equivalent of pandit.

SATA, a clan of bards of Central India who are genealogists.

SATADRU or Sutadri, the river Sutlej.

SATAN, an evil spirit of the Jews, Christians, and Muhammadans. Shaitan, the Satanos or Satan of Europe, was recognised by the Chaldees.

SATANI, 714,000 in number, are a sect of Hindus who to a great extent ignore caste distinctions. They are followers of Chaitanya, a religious teacher of the 15th century, and of his disciple Sanatana. They have views similar to those of the Baisnab reformers of Bengal. Many of them in Southern India worship Permalu, an incarnation of Vishnu, perambulate the street morning and evening, and accept alms from all but the lowest castes, often exacting the same by threats of burning themselves with a lamp. The temple servants are generally taken from the Satani. They are skilled in weaving flowers into

beautiful garlands. They are generally attached to the Vishnu temples; while the Pandarums are attached to the Siva temples. One of the Satani sects burn their dead; the other bury their dead in a sitting posture up to the head, then burst the head by throwing coconuts on it, and heap it over with earth.

SATARA, a town of the Bombay Presidency, in lat. 17° 41' 25" N., and long. 74° 2' 10" E., which gives its name to a revenue district, with an area of 5378 square miles. Early in the Christian era, Satara formed part of the dominions of the great Salivahana, whose capital was at Paitan, on the Godavery river. The Chalukya Rajputs next ruled the country, rising to their greatest power in the 10th century, and becoming extinct at the end of the 12th. The Jadhav rajas of Dowlatabad succeeded them for about a hundred years. The first Muhammadan invasion took place in 1294, and the Jadhav dynasty was overthrown in 1312. Two-thirds of the population consist of Mahrattas and Kunbi, who during the period of Mahratta ascendancy (1674-1817) furnished the bulk of the armies. The Mawala, Sivaji's best soldiers, were drawn from the Ghatmatha (hill top) portion of the district. Brahmans, employed as priests or Government servants, are found in large numbers in the towns of Satara and Wai. Besides these, Vani, Dhangar, Ramusi, Mhar, and Mang are among the principal castes met with throughout the district. Satara was taken by the Indian army on 11th February 1818.

SATARUPA. **SANSK.** In Hindu mythology, the female half portion of the androgyne form of Brahma, framed out of one-half of Brahma's body; the type of all female creatures. The consort of Swayam-Bhuvā.

SAT-DHARA, said to mean literally the hundred streams, is a group of Buddhist topes on the left bank of the Besali river, just below the junction of the Ghora-pachar river. The topes are two miles W.S.W. of the small village of Ferozpur.

SATHWARA, a humble tribe of the Bombay Presidency, similar in their habits and pursuits to the Kachees.

SATI. **SANSK.** Good, pure; hence suttee, a good woman who immolates herself with the body of her deceased husband. The term is applied to a true and chaste wife.

SATI, a Hindu goddess, Siva's first wife, a daughter of Daksha. The gods whom Sati contained in her womb burst out; her limbs were scattered all over the world, and the places where they fell are become sacred. Her breasts fell near Jalandar in the Panjab, the yoni into Assam, and the guhya (podex) into Nepal, where they are worshipped to this day. The last is a small cleft in a rock, with an intermitting spring; it is called Guhyas'han.—*Wilford; As. Res.* vi. p. 477; *Moor*, p. 108.

SATIN.

Atlas, GER. | Atlas, Intalus, . . . MALAY.
Raso, IT. | Setin, PORT.

A silken fabric manufactured in Europe. A soft, closely-woven, twilled silken fabric, with a glossy surface. Satins are either plain or figured, and are made of all colours.—*Faulkner*.

SATIN-WOOD. The Swietenia chloroxylon furnishes this cabinet-wood. It is hard, and when polished is very beautiful, with a satiny lustre.

It is much used for picture-frames, rivalling bird's-eye maple of America. It is occasionally used by cabinet-makers for general furniture, but it is liable to split. Satin-wood grows chiefly in mountainous districts of Southern India and Ceylon. It is abundant in the hills of the Vizagapatam and Ganjam Circars, though logs seldom exceed eight inches diameter. Very fine satin-wood occurs at Kutapatti, in the Tengrikottah taluk of Salem. It is used for mallets, also for the naves of gun carriage wheels, and is the best suited of all the Indian woods for fuses. The price is nearly the same as that of teak and black-wood. Colonel Frith mentions a satin-wood of Penang, of a straw colour, and a beautiful wood for ornamental furniture, etc.; but it is not known what satin-wood tree grows there. The best variety is the West Indian, imported from St. Domingo in square logs and planks from 9 to 20 inches wide; the next in quality is the East Indian, shipped from Singapore and Bombay in round logs from 9 to 30 inches diameter; and the most inferior is from New Providence, in sticks from 3½ to 10 inches square. The wood is close, not so hard as boxwood, but somewhat like it in colour, or rather more orange; some pieces are very beautifully mottled and curled. It was much in fashion a few years back for internal decoration and furniture; it is now principally used for brushes, and somewhat for turning; the finest kinds are cut into veneers, which are then expensive. The Nassau wood is generally used for brushes. The wood has an agreeable scent, and is sometimes called yellow sanders-wood.—*M.E.J.R.*; *Mr. Rohde, MSS.*; *Cleghorn*; *Col. Frith*; *Tredgold*.

SATNAMI, a monotheistic sect in the Central Provinces, who worship the Creator under the designation of Satnam, the pure name. The sect arose among the Chamars of the Ch'hattisgarh, Bilaspur districts, by the influence of Ghasi Das, one of their own number, who disappeared for six months, and on returning he explained to them how he had been miraculously sustained in the wilderness, how he had held communion with a higher power, and how he had been empowered to deliver a special message to the members of his own community. This message absolutely prohibited the adoration of idols, and enjoined the worship of the Maker of the universe without any visible sign or representation, at the same time proclaiming a code of social equality.

The movement occurred between the years 1820 and 1830, and nearly the whole Chamar community of Ch'hattisgarh now call themselves Satnami.

He died in the year 1850, at the age of eighty, and he was succeeded in the office of high-priest by his eldest son, Balak Das. They ignore Hindu festivals. As a rule, they are monogamists, though polygamy is not specially prohibited. Some forms of prayer collated from Hindu authors are said to exist among the teachers, but these are quite unknown to the people, and the only act of devotion which a Satnami practises is to fall prostrate before the sun at morn and eve, and exclaim, 'Satnam, Satnam, Satnam!' They will not even drink water except from one of their own caste, and liquor is prohibited. They are divided into two grand sections, the 'smokers' and 'non-smokers.' There is no class more loyal and

satisfied with British rule than this community. This movement had its origin at Girod, a small hamlet in the Bilaspur district, on the south bank of the Mahanadi, and on the borders of the Sonakhan estate. This class of deistical Chamars now numbers at least a quarter of a million. They are a thriving and industrious people, occupying a very important position as cultivators and village headmen in the Bilaspur district.

SATNARAMI, a religious sect of Hindus who settled near the town of Narnol, and about A.D. 1676, A.U. 1087, rose in insurrection in the time of Aurangzeb. They were principally engaged in trade and agriculture, and though generally peaceable they carried arms, and were always ready to use them in their own defence. In a quarrel with the police, one of their sect was beaten by a police soldier; his comrades retaliated, the affray spread till several thousands assembled, who defeated a body of troops sent against them, and took possession of Narnol. Two other bodies sent against them from Dehli were also worsted, and the belief arose that they were possessed of magical powers and bullet proof, while their enchanted weapons dealt death at every blow. Many of the neighbouring zamindars joined them, and the whole provinces of Ajmir and Agra were thrown into such confusion, that Aurangzeb, to restore order, thought it requisite to take the field against them, ordered his tents to be pitched, wrote verses of the Koran to be fastened to the standards as a protection against enchantment. The exertions of some chiefs at last induced the royal troops to make a stand, when the insurgents were defeated, and dispersed with great loss.—*Elphinstone*, 561.

SATPURA. This name is now generally applied to the mountain range or table-land which, commencing eastward at Amarkantak, runs nearly 600 miles up to the western coast of India, though the appellation seems to have been formerly restricted to that portion of the range which divides the Nerbadda and Tapti valleys. The Satpura range is known to Hindus as three portions, the most easterly being the Mykal, the centre is the Mahadeo, and only their western portion as the Injadri or Satpura. Chouragarh, 4200 feet above the sea, is the highest peak of the Mahadeo range. The Mahadeo portion culminates in the Pachmarri peaks, sacred to Mahadeo. From Rajpipla to Asirgarh consists of a belt of mountainous country, 40 or 50 miles in breadth, and of an average height at the crest of the chain, but little under 2000 feet above the sea, while many peaks rise above 3000, and some (and even some table-lands, as Turan Mal) are as high as 4000 feet. Nearly the whole of this range, both hills and valleys, consist of trap; but towards the west, along the northern boundary of Kandesh, a series of craggy peaks are met with, such as are but rarely seen in the trap region. Elsewhere the summit of the range is more or less a table-land. Just east of Asirgarh there is a break, through which the railway from Bombay and Kandesh to Jubbulpur passes, the highest part of which is only 1240 feet. This break leads from close to the junction of the two alluvial plains in the Tapti and Purna to a flat tract lying between the two Nerbadda plains. East of this break the trap hills continue till south of Hoshangabad, where sandstone and metamorphic rocks emerge and form a great portion of the hills of the Pachmarri and Betul country.

There is a table-land of considerable extent round Betul, which extends far to the eastward beyond Chindwara and Seoni, and joins the high plateau of Amarkantak. Upon this plateau trap still predominates, and a great spur from it extends between the Tapti and the Purna, forming the northern boundary of Berar as far as the confluence of those rivers. This range is also of considerable height, in places nearly 4000 feet. Like most other ranges, it has no definite name, and is generally looked upon as a portion of the Satpura. The Satpura Hills divide the valleys of, and form the watershed between, the Tapti and Nerbadda, and the Satpura plateau is the true barrier between Northern and Southern India, and is the line on which the settlers from Hindustan met the emigrants from the Dekhan and Maharashtra, each of them pressing the prior non-Aryan races into the great natural fastnesses of Central India. In Hoshangabad are Bharin, Chamar, Gond, Gujar, Kunbi, Kurku, Lodhi, and Marla. In Maudla, Ahir, Baiga, Dher or Mhar, Dhimar, Gaoli, Gond, Kol, Kurmi, Lodhi, and Teli. In Nimar are Bhil, Bhilal, Dher, Gond, Kunbi, and Kurku; and in Seoni, Ahir, Bharin, Dher, Gaoli, Gond, Kurku, Mali, and Ponwar.

SATRAP. This term is familiar to the reader of the Grecian history of ancient Persia, with merely a softening of the initial letter, as Satrapa, the prefect of a province under the Persian system of government. It is an obsolete Persian title for the governor of a province. In Sanskrit it is a term obtained from one of the insignia of royalty, the royal umbrella, the Eka-ch'hatriya, the possessor of it being the Ch'hatra-pati, lord of the umbrella, a vaulted, horizontal umbrella, the exclusive privilege of royalty. It was under this title that the Persians, at a very early period, were in the habit of governing their numerous tributary provinces. The same system and the same denomination of satrap was adopted and retained by the Macedonian conquerors, alike when Greek or native officers were employed. And instances are frequent enough of the satraps assuming to themselves independence and a regal title. The satraps of the ancient Persian monarchy are not supposed to have extended across the Indus. It was in Alexander's time this limit was first transgressed; it was not long prior to the time when the Bactrian Greeks or the Parthians made themselves masters of Sind, Cutch, and Gujerat.—*Prin. Ind. Ant.* ii. p. 64.

SATR-SOWA, Myrtus communis, the myrtle; its leaves are eaten with black pepper to cure emissions that occur from debility.—*Genl. Med. Top.* p. 152.

SATRUNJAYA, or Palitana, a sacred mountain of the Jains in Kattyawar, about 80 miles from Gogo. Its name means victorious over the foe. From the earliest period of the Jain religion, spreading in Kattyawar, Satrunjaya has been one of the places held most holy by the followers of the Tirthankara. Rising in the midst of a vast plain, near the independent city of Palitana, in the S.E. corner of Kattyawar, this city of temples is reached by a difficult narrow road, and many stairs, on the side of which are built several small resting-stations and tanks. It is surrounded by fortifications, on which a few old guns are still mounted, and has ever been kept in such a state of constant repair, that it is now almost impossible

to trace remains which can safely be considered of the original structures. From the earliest mention of the place, embellishing and restoring seems to have been the work of its proprietors and projectors, and at the present date the same spirit animates Jains from all parts of India, and great care and labour are bestowed upon its numerous temples. One of the curious features of these restorations, is the application of a brilliantly white polished chunam to the outer side, and over every part of the stone-sculptured edifices, giving them the appearance of marble. Many of these temples are beautifully painted inside. Satrunjaya illustrates the Jaina custom of grouping their temples. They are in hundreds there, covering over the summits of two extensive hills. The smaller shrines line the streets; the larger temples are enclosed in 'tuka' or separate enclosures, surrounded by high fortified walls. A few yati or priests and a few servants are there to perform the daily services and keep the place clean, but there are no other residents there. The pilgrim goes up and returns. It is a city of the gods. The shrines are almost all the gifts of single wealthy individuals. Some are as old as the 11th century, but the largest number have been constructed since the early part of the 19th century. See Architecture.

SATTAN, a name of the Hindu god Ayanar, and not identical with Satan of the Bible.

SATTATHAVAN, a Vaishnava sect of the south of India, who are to the Vaishnava what the Vira Saiva are to the Saiva. They are flower-sellers, minstrels. See Satuni.

SATTU or Saktu. HIND. The flour or farina of parched grain of roasted barley or of pulse.

SATURN, in the sidereal theology, was represented by Bel.

SATURNIA. *Schrank*. A genus of insects belonging to the order Lepidoptera and the family Bombycidae. The antennae are fringed in the male; the head is small; the wings are very broad and entire; the palpi and trunk are wanting. The genus Saturnia includes now the *Pavonia* of Hubner, the *Phalena attacus*, *Linnaeus*, and part of the genus *Bombyx* of Fabricius. To this genus, also, some of the largest of the Lepidoptera belong; but *S. atlas*, the giant atlas moth, which has wings measuring 7 or 8 inches across, is now named the *Attacus atlas*. This species also, with *S. cercropia* and *A. lunula*, have their wings produced into a tail. The cocoons of *A. cynthia* and *S. mylitta* are used in India for the production of silk. Latreille states that these are the wild species of silk-worm of China. *A. cynthia* is the Arrindi silk-worm of India. *S. promethia*, a North American species, forms its cocoon within the leaf of a sassafras tree, having previously fastened the stalk of the leaf to the stem by a strong silken web, whereby it is prevented from falling with the other leaves.—*Westwood*; *Linn. Trans.* vii. See Silk-worm.

SATYA-GUNA. SANSK. The quality of truth, purity, and wisdom. Satya-loka, the region of truth, or Brahma. See Guna; Loka.

SATYASI, Chourasi, groups of 87 and 84 villages, resembles the English 'hundreds.' Satyasi, or 87, is a very frequent group; 84 is supposed to be the number of solar months in the year by the number of days in the week, $12 \times 7 = 84$.

SATYAVAMA and Lakshmi, wives of Balaji,

an incarnation of Vishnu. These two, as his sakti, are generally seen with him as well as in his avatara of Krishna.

SATYAVATI, mother of Krishna Dwaipayana, and wife of king Santana. Bhishma was the son of king Santana by the holy river goddess Ganga, and hence called Santanava, Gangaya, and Nadi-ja or river born, also Tala Ketu or palm banner. His life was one of self-denial, devotion, and fidelity. He adopted a bachelor life, and abandoned his right of succession to the throne, in order to allow of his father's marriage with Satyavati. She bore two sons to his father, each of whom succeeded to power.

Bhishma obtained for the younger, Vichitra Virya, two daughters of the king of Kasi, but he died young and childless, on which Bhishma arranged that Krishna Dwaipayana, who had been born of Satyavati prior to her marriage with king Santana, should raise up seed to his half-brother. Two children were born, Pandu and Dhritarashtra, whom Bhishma brought up, and acted for them as regent of Hastinapura, and he also directed the education of their respective children, the Pandava and the Kaurava. In the war of succession which followed, he took a part, and on the tenth day of the fight he was unfairly wounded by Sikhandin, and pierced with many arrows from the bow of Arjuna, and died 58 days afterwards.—*Dawson*.

SATYAVRATA or Satyvrata is the Noah of the Hebrew writers. He is mentioned in the first Purana as having received a warning of the coming deluge, in the form of an injunction to take with him into an ark, seven rishi or saints, all medicinal herbs, every variety of seeds, and pairs of all brute animals. Satyavrata acted on this, and when the flood abated, Vishnu descended to the earth in the form of a tortoise, and taking Mount Mandara on its back, the gods churned the ocean, and obtained the fourteen precious products, and amongst them medicines and the health-bestowing Dhanwantari.—*As. Res.* iii., vi., viii., ix.

SATYAYOGA, or Golden Age of the Hindus, is thus described:

'O lovely age, by Brahmans fam'd,
Pure Setye yug in Sanskrit nam'd!
Delightful! Not for cups of gold,
Or wines a thousand centuries old;
Or men, degenerate now and small,
Then one and twenty cubits tall.
Not that plump cows full udders bore,
And bowls with holy curd ran o'er;
Nature then reigned, and Nature's laws,
When females of the softest kind
Were unaffected, unconfined;
And this grand rule from none was hidden,
What pleaseth hath no law forbidden.'

SATYRIUM CUCULLATUM. *Thunb.*

S. bicornis, *Thunb.* | *Orchis bicornis*, *Linn.*

A plant of the Cape of Good Hope introduced into Bengal. *S. Nepalense* is the Phung of the Bhot race.

SAUDA, a celebrated poet who wrote in Hindi. He was born at Delhi about the end of the 18th century. His name was Mirza Rafai. He lived at Lucknow in the times of nawabs Saadat Ali and Asof-u-Dowlah, and had the literary title of Malik-us-Shura.

SAUR. HIND. A bull liberated. See Brik-hot-sarg.

SAURA, a drink in use in the Nicobars, obtained from one of the palms,

SAURA or Saora, a forest race on the mountains of the Eastern Ghats. Saura is supposed to be derived from Surya, identical with Sol, the sun; a sun-worshipper.

SAURAPATA or Saura, Hindu worshippers of Suryapati, the sun-god. A sect of limited extent and total insignificance.

SAURASHTRA, an ancient name of the peninsula of Gujerat, which is supposed by General Cunningham to have been lost in A.D. 319, when the successors of the Sak kings were supplanted by the Vallabhas, and the capital changed from Junagarh to Vallabhi. In ancient times, however, the peninsula of Gujerat was only known as Saurashtra, and under this name it is mentioned in the Mahabharata and in the Puranas. It is called Surashtra by Ptolemy and the author of the Periplus, and its people are most probably intended by Pliny under the corrupt name of Suaratarata or Varetata, properly Surata.

Okamandil is a sterile jungly tract in the extreme north-west of the Saurashtra peninsula, and contains about 13,000 inhabitants. These are the Wagher. Their only important places are the holy Hindu site of Dwaraka on the west coast, and Beyt, a small island a few miles to the north, with shrines boasting of scarcely inferior holiness. Okamandil, as also Unreyli in Kattyawar proper, and Korinar in South Kattyawar, are under the direct rule of the Gaekwar. In 1803, 1858, and in October 1859, they repulsed British troops, but in 1860 they seemed entirely dispersed or surrendered. Kattyawar is rich in jungle fastnesses. On one occasion, the rapidity and severity of the vengeance, in the escalade of the stronghold of the Wagher pirates of Dwaraka by the British force under the Hon. Colonel Lincoln Stanhope, induced Singram, the chief of the Badhail of Beyt, to sue for terms, and he agreed to surrender Beyt and to live at Aramra on a stipend furnished by his suzerain, the Gaekwar.

The Wagher of Dwaraka, who, with the Badhail of Aramra, were so long the terror of these seas, are a spurious branch of the Jhareja family of Bhoj, one of whom, called Abra, with the cognomen of Muchwal or the whiskered, from a tremendous pair of these adjuncts to the face, came from Cutch in the time of Rinna Sowa, in whose family he intermarried, and from whom he held in charge the thana or garrison of the castle of Goomti or Dwaraka. His son had offspring by a woman of impure caste, and they assumed the name of Wagher, with the distinctive office of Manik or gem. The last four chieftains of this race were Mahap-Manik, Sadul-Manik, Sameah-Manik, and Mulu-Manik, who, with all his kin and motley company of Wagher, Badhail, Arab, etc., after a desperate defence, was slain in the storm or attempted retreat. Throughout the sea-coast of Saurashtra, at Gogo and Mandavie, are seamen who call themselves Hindus, but who keep entirely distinct from all other classes. Some of them claim a descent from the mariners of the Arabian shores, but still as Hindus. The Badhail fixed themselves in the district of Oka (Okamandala) on the migration of Seoji from Kanouj.—*Toul's Travels*, pp. 220, 440, 441; *Rajasthan*, ii. p. 14.

SAUSSUREA, a genus of plants of the order Composite; 13 species occur in the Himalaya and plains of India,

S. gossypina. In East Nepal, at the summit of the Wallan Choon pass, at an elevation of 16,748 feet above the sea, the plants gathered by Dr. Hooker near the top of the pass were species of Composite, grass, and Arenaria; the most curious was *S. gossypina*, which forms great clubs of the softest white wool, six inches to a foot high, its flowers and leaves seeming uniformly clothed with the warmest fur that nature can devise. Generally speaking, the alpine plants of the Himalaya are quite unprovided with any special protection of this kind; it is the prevalence and conspicuous nature of the exceptions that mislead, for the prevailing alpine genera of the Himalaya, *Arenaria*, *primroses*, *saxifrages*, *fumitories*, *ranunculi*, *gentians*, *grasses*, *sedges*, etc., have almost uniformly naked foliage.—*Hooker, Journ.* i. p. 225.

S. lappa, *Benth.*, is the *Haplotaxis lappa*, *Decaisne*. It is a perennial plant of Kashmir, and its aromatic root has been supposed to have formed part of the costus of the ancients.

SAVA or Saveh, a town in Persia lying between the towns of Kazvin and Isfahan. This is supposed to be the ancient Saba, whence the three magi took their departure when they proceeded to adore the infant Jesus at Bethlehem.

SAVA, eldest son of Rama, the ancestor of the Balla, a Suryavansha race of Rajputs.

SAVANDRUG, a hill fort in the Bangalore district of Mysore, locally known as the Magadi Hill, 4024 feet above sea-level; lat. 12° 55' N., and long. 77° 21' E. It consists of an enormous mass of granite, standing in a base 8 miles in circumference.—*Imp. Gaz.*

SAVANORE or Sanore. Its chief is a Pathan, whose ancestor, in 1750, was one of the three Pathan Muhammadans who conspired against Nasir Jung.

SAVINGS BANKS. The Indian Government sanctioned a scheme for the transfer of savings banks from local treasuries to the post-offices. Thus, 3800 savings banks will be established throughout India.

SAVU ISLAND. Its S.E. point is in lat. 10° 37' S., and long. 122° E., and is 18 miles long. Savu and Rotti are small islands to the west of Timor, and very remarkable as possessing a handsome race, with good features, resembling in many characteristics the race produced by mixture of the Hindu or Arab with the Malay. They are certainly distinct from the Timorese or Papuan race, and must be classed in the western rather than the eastern division of the Archipelago.—*Wallace*, ii. p. 277.

SAWUNTWARI, a Native State about 200 miles south of Bombay city. Area, about 900 square miles, and population 190,814 in 1872, and 174,433 in 1881, mostly Hindus. A dialect of Mahratti, known as Kurauli, is spoken. The Mahrattas and Mhars are favourite recruits for the Bombay native infantry regiments. This state is ruled by the Sawants, hereditary desh-mukhs of Wari, near Goa; they are of the Bhonsla family. In 1709, the British opened relations with Phond Sawant, nephew of Khem Sawant, who in 1707 received from Sahoji a deed confirming him in full sovereignty. In 1730 the British and Phond concluded a treaty against Kanaji Angria, the piratical chief of Kolaba. In 1738 Phond was succeeded by his grandson, Ramchandra; in 1755 Ramchandra's

son Khem succeeded, and his 48 years' rule, till his death in 1803, was one long war with various Mahratta chiefs, and with the Portuguese. In 1765 the British sent a force against him, and he ceded Vingorla and Fort Reree. Being childless, his widow adopted Ramchandra Bhao, who was murdered in 1807. He was succeeded by Phond, who died in 1812, and the regent, Durga Bai, forcibly seized districts belonging to Kolhapur, and during the war with the Peshwa, she supported his cause; but a British force was sent to reduce the country, and in 1819 a treaty was agreed upon, ceding the whole line of the sea-coast. In 1830, and again in 1832, the British had to aid Khem Sawant to suppress rebellions.

SAWUR. MALAY. A very beautiful and useful wood of Java; the colour resembles that of mahogany, but the grain is closer, and it is more ponderous; its chief use is for handles of tools for carpenters and other artificers, for machinery, especially for the teeth of the wheels of mills, and other purposes where a hard and durable wood is required. On account of its scarcity, it is uniformly cut down in Java before it arrives at the necessary size for cabinet-work. Forests of it grow on the hills of Bali, opposite the Javan shore, whence it is brought over by boat-loads for sale.

SAXIFRAGACEÆ. D. C. The saxifrage tribe of plants, comprising the genera *Hydrangia*, *Ciamitis*, *Adamia*, *Saxifraga*, *Chrysosplenium*, *Tiarella*, *Astilbe*, and *Vahlia*. A saxifrage, tho Shih-hu-wei and Ngo-puh-shih-ta'au of the Chinese, an acrid plant, grows near water; it has small yellow flowers, and is recommended in all diseases of the senses and great orifices of the body; it acts as an emetic and diaphoretic.

Saxifraga ligulata, Wall.

Makhan, . . .	BEAS.	Bat pia, . . .	JHRLUM.
Shap rochi, . .	CHEKAB.	Popal wat phula,	KANGRA.
Kurgotar dharposh,	"	Saproti, . . .	RAVI.
Banpatrak, . . .	"	Til kachalu,	Shiblack, "

Cultivated in the Himalaya. Root given in honey to teething children; leaves used by Hindus as food platters.—*J. A. Murray*.

Saxifraga stenophylla, Royle.

Fairy-hair, . . . ENG. | Mu-i-pari, . . . PERS.

So named from its numerous thread-like stolons, in which and its general appearance it closely resembles the *Saxifraga flagellaris* of Melville Island.

SAYANA, the headman of a hill village in the N.W. Himalaya.

SAYANACHARYA, a man of high station and a deservedly celebrated scholar, who wrote a commentary of the Vedas. He was brought up at the court of Vira Bukka Raya, raja of Vijayanagar, in the 14th century A.D.

SAYANI CHANDRA SEKHARA, author of the *Madhurani Ruddha*, a drama in eight acts; the style has considerable merit.—*Wilson*.

SAYER. ARAB. Literally travelling; but in the fiscal system of India applied to the transit duties levied on goods passing from one district or one territory to another. It was finally abolished in 1834, 1837, and 1844, in the three presidencies of Bengal, Bombay, and Madras. The transit duties in Madras amounted to £310,000 sterling a year.

SA-y-NORONHA. Constantine de Sa-y-Noronha and all his army of 1500 Portuguese and

20,000 natives were destroyed by the king of Kandy in the early part of the year 1682.

SBANGJA. HIND., TIB. Moss tea, a substitute for real tea.

SCABBARD. For these, the people of the East Indies set a great value upon the skin of a fish which is rougher than a seal-skin. Upon the back of the fish there are six little holes, and sometimes eight, somewhat elevated, with another in the middle, in the form of a rose; and the more those holes grow in the form of a rose, the higher value they put upon them. Tavernier had seen ten thousand crowns given for a skin.—*Traveller's Tr.* p. 151.

SCÆVOLA TACCADO. Roxb. Grows on the Coromandel coast and deltas of Indus and Ganges. It is eaten as a pot-herb. Artificial flowers from the pith of its stem and branches are made by the Malays.

SCALIE, of Cuttack, the fibre of a gigantic twining plant, common throughout the forest jungles of the district. It is used for cordage, and is made into twine for mat-making and roofing purposes.

SCALLOP. Jula, HIND., Kashkul, PERS. The fakir's dish, made of a half sea-coconut shell. Speaking of a child of unknown parentage, the phrase is, Fakir-ko-jhulay men tukra kon dala? Who threw the portion into the fakir's scallop, who can tell?

SCALPING. All Hindus retain only the tuft of hair on the crown of their heads, which is familiar to Europeans from the pictures and descriptions of the Indians of North America, as the scalp-tuft, the most glorious trophy, if not the sole reward of their victor. The Hindu practice of wearing this scalping tuft, Shik'ha, SANSK., d'Zutu, TEL., Kudi mai, TAM., was doubtless brought with them from Scythia; for, like the Indians of North America, the Scythians cleaned the scalp and hung it to their horses' bridles. Scalping is generally supposed to be a peculiarly North American practice that originated in High and North-Eastern Asia. But the father of history says, 'Of the first enemy a Scythian sends down, he quaffs the blood; he carries the heads of all that he has slain in battle to the king; for when he has brought a head, he is entitled to a share of the booty that may be taken,—not otherwise; to skin the head, he makes a circular incision from ear to ear, and then, laying hold of the crown, shakes out the skull; after scraping off the flesh with an ox's rib, he rumpled it between his hands, and, having thus softened the skin, makes use of it as a napkin; he appends it to the bridle of the horse he rides, and prides himself on this, for the Scythian that has most of these skin napkins is adjudged the best man, etc. They also use the skulls for drinking-cups.'

The Abbe Em. Domenech (Seven Years' Residence in the Great Deserts of North America, xxxix.) quotes the decalvare of the ancient Germans, the capillos et cutem detrahare of the code of the Visigoths, and the annals of Flude, which prove that the Anglo-Saxons and the Franks still scalped about A.D. 879. Abbe Domenech relates a conversation between two warriors. Is it a chief who speaks to Mahto-to'tia? See the scalp which hangs from the bit of my horse, answered the Scheyenne. The scalp fastened to the extremity of a pole was placed in the conqueror's cabin; and

on days of parade or battle, in front of the cabin. The chiefs suspend it to their horses' bridles.

SCAMMONY.

Sukmoonla, . . . ARAB.	Purgirwinde, . . . GER.
Scammonium, DA. DU. SW.	Scammones, . . . IT.
Scammonoe, . . . FR.	Pessay smert, . . . RUS.
Skammonien, . . . GER.	Escamonea, . . . SP.

Scammony, the Sukmoonla of the Arabs, is found in the bazars of India; it is the product of *Convolvulus scammonia*, a native of Syria, the Levant, and Gujerat. The most abundant harvest of scammony is in Smyrna and Aleppo. There are several modes of collection, which give rise to corresponding commercial varieties.

SCARFS of fine muslin form part of the dress of most of the Hindu castes, and are worn suspended from the neck to about the middle of the thigh. They are largely manufactured in many parts of India. Delhi scarfs are of Kashmir cloth or net, embroidered with silks of various colours. Those of black cloth, black net, embroidered with white or gold-coloured floss silk, are the most chaste and beautiful. The art was introduced into Lahore and Delhi by Kashmir artisans, and Muhammadans are employed on it.

SCARLET MITE, or Red Spider, is the *Acarus telarius* or *Gamasus telarius*, an insect which envelops the leaves of the coffee plant in a delicate, closely-woven web, which so checks the respiration that the plant becomes dry and withered.

SCEPTRE, the Ch'hari of the Hindu rulers, a long rod with an iron spike on it, often placed before the gadi or throne. Ch'hari mazbut t'ha, his rod was strong, is a familiar phrase, which might be rendered, his sceptre is firm.—*Tod's Rajasthan*, i. p. 410.

SCHIEFNER, F. A. von Schiefner was an authority on Finnish, edited Castrén's grammars of Samoyedan and similar languages, and translated the northern epic, the *Kalevala*. He worked with great results among the mysterious languages of the Caucasus, and helped General von Uslar in his discoveries in the ethnology and philology of that region. But his speciality was Tibetan. The Russian Government became possessed of copies of two editions of the *Kah-gyur*, one of the two collections of sacred books of Tibet, which run to 100 or 108 volumes folio; the companion encyclopædia, the *Tan-gyur*, consisting of 225. From the first of the seven divisions of the former group, Professor Schiefner extracted all the legends and stories. They correspond to the stories of the Panchatantra, of the Russian collections of folk-lore, of *Æsop*, and of the Brothers Grimm. Thus the opening tale of King Mandhatar and his immoderate wishes is the same as Grimm's Fisherman and his Wife; that of Kusa is much like Beauty and the Beast; the Clever Thief is a variation of the well-known story told by Herodotus of the treasure of Rhampsinitus. One of the best stories is that of Visakha, a clever and virtuous girl, whose ways of helping people out of difficulties are innumerable. Among her decisions is one between two wives who are claiming possession of a son, an exact counterpart of the Judgment of Solomon. The story of Susroni and her magic lute is akin to those of Orpheus, Amphion, and the Pied Piper of Hamelin; and the humiliations of Madri, the wife of the princely Visvantara, are an anticipation of those of patient Griselda. The similarity of the short animal

stories to *Æsop* and other western collections, is apparent, the chief differences being purely local, the jackal taking the place of the fox, the lion of the wolf, and so forth. Most of them, however, deal with monkeys, who live in bands of five hundreds under a chief, wise or foolish.

SCHIMA WALLICHII. *Choisy*. A valuable timber tree of Darjiling, India, growing up to 5000 feet. It attains to 100 feet in height.

SCHIZODACTYLA MONSTROSA. *Westwood*. The great cricket or carpenter insect, the Jheengor, HIND., is about 1½ inches long and the thickness of a man's little finger; bores cylindrical passages in garden grounds, and issues at night, filling the air with a whizzing kind of chirp. It nips off the stems of the plants near its hole. It is destroyed by pouring water in, and killing it as it is escaping.

SCHIZOSTACHIUM BLUMEI. *Nees*. A lofty bamboo growing in Java at 3000 feet. Other species occur in Madagascar, China, the Philippine Islands, and in the S. Sea Islands. *S. brachycladum*, *Kurz*, of the Sunda Islands and Moluccas, has stems 40 feet high and very hollow. *S. elegantissimum*, *Kurz*, of Java, from 3000 to 6000 feet, grows to 25 feet, and flowers in the third year. *S. Hasskarlianum*, *Kurz*, of Java, and *S. serpentinum*, *Gigantochloa aspera*, alter, maxima, and robusta, afford the best kinds of bamboo vegetables, in the young shoots as they burst out of the ground.

SCHLAGENTWEIT, three brothers, Herman, Robert, and Adolphe, who were employed from the year 1855, to report on the physical geography of India and High Asia. They collected and published a vast amount of information. Adolphe, the youngest, was murdered at Kashgar by its fanatic ruler, Wali-Khan. At the time of his journey, Yarkand was occupied in force by a Syud chieftain of one of those predatory bands with whom the Chinese are continually at war, named Dilla Khan or Zullat Khan. Soon after reaching the city, Dilla Khan met with a severe defeat from the Chinese forces, and was obliged to retire. A. Schlagentweit finding himself disappointed in this direction, took the resolution of going to Kashgar, at that time occupied by another Syud chieftain, named Wali-Khan. This man was possessed of considerable power on the borders, and was honoured by the title of Pir. On arrival near the camp of this chief, Adolphe pitched his tents at the distance of a cos, and sent forward Muhammad Amin to notify his advent. In a little time a person came over, who forthwith proceeded to take an inventory of the traveller's property. His arms were also demanded, and surrendered. He was then compelled to go to Wali-Khan's camp, and on remonstrating appears to have been summarily beheaded with a sword. This was about the 26th August 1857.

SCHLEGEL, A. W. VON, a Sanskrit scholar, who in 1823 published an edition and Latin version of the *Bhagavat Gita*, and in 1829-38 two volumes of the *Ramayana*, with a translation of the first volume.

SCHLEGEL, FRIEDRICH, a poet and learned Sanskrit scholar, in 1808 published *The Language and Wisdom of the Indians*. He laid down that the languages of India, Persia, Greece, Italy, Germany, and Slavonia form one family.—*Sayce*, i. p. 49.

SCHLEICHERA TRIJUGA. Willd.

Meliococa trijuga, Juss. DC	Casambium pubescens, Bu
Stadmannia trijuga, Spreng.	Schleich. pubescens, Roth.
Samma, BEAS.	Pu maram, Puvati, TAM.
Koon, BENG.	Mayi, Posuku, . . TEL.
Gyootha, Kobin, . . BURM.	Rotangha, Rostanga, "
Saguri, Chakota, . . CAN.	Yelim burika, . . "
Goosum, . . . of KAMAON.	Zolim buriki, . . "
Kusoomb, . . . MAHR.	Kola-kosoomoo, URIYA.
Jamoa, RAVI.	Ghuntiah-kosoomoo, "
Kong, Ambul kon, SINGH.	

This tree grows in the warmer parts of Ceylon, also in Coimbatore; common in Canara and Sunda, is not uncommon in the Dundee forest and in the forests of the South Konkan, is common in those of the North Konkan, is said to be very abundant in the Govavery forests, and abundant in Burma. It is found in greatest perfection on the banks of the Sitang in the Karen forests above Tounghoo; but is also found throughout the Pegu and Tounghoo forests in abundance, more particularly the latter. It is also found along with teak in Tharawaddy and Promé forests. A cubic foot there weighs 70 lbs.; grows in all the valleys and outer ranges of Kamaon. It occurs rarely, wild, in the Siwalik tract up to the Beas, and on the eastern verge of the Panjab. It produces a red, strong, hard, and heavy wood, which is used to make pestles, spokes for cart-wheels, and other purposes where much strength in small space is required, and as crushers for sugar, rice, and oil mills, screw rollers for sugar mills, cotton presses, etc., and the axle-trees of carts and ploughs. The seeds yield an oil which is used for burning, and from the young branches a considerable quantity of lac is gathered. The fruit is sometimes quite smooth, but occasionally armed with prickles. It ripens in May, and its pulpy aril is of a very agreeable acid taste. The bark is astringent, and is used rubbed up with oil by the natives to cure the itch.—Roxb.; Voigt; Wight; Gibson; Brandis; Thw.; Thomson; Cat. Ex., 1862; Mr. Rohde; Beddome.

SCHMIDELIA, a genus of plants of the order Sapindaceæ; several species occur in the E. Indies. *Sch. acuminata*, Thw., a small tree of Galagama, in Ceylon, on the banks of streams, at an elevation of 2000 to 3000 feet. *Sch. allophylla*, D. C., a small tree, a variety of which grows at Ambagamowa and Hinidoon districts of Ceylon, up to an elevation of 3000 feet; another variety grows in the Central Province, at an elevation of 2000 to 5000 feet. *Sch. hispida*, Thw., a small tree, grows in the Ambagamowa district of Ceylon at an elevation of 1000 to 2000. *Sch. dentata*, Wall., occurs in Assam and in Chittagong, and *Sch. glabra*, Roxb., and *Sch. villosa*, Wight.—Roxb.; Voigt; Thw.

SCHMIDELIA SERRATA. D. C., W. and A.

Ornitrophe serrata, Roxb. Cor. Pl.

Rakhal phulka jhar, HIND. | Tantisa, Tualike, . TEL.
Korra chettu, . . TEL.

A straggling shrub or small tree with ternate leaves. It grows in the Peninsula of India and Bengal. Timber very small. Its small red ripe berries are eaten, and the astringent root is employed to check diarrhoea.—Roxb.; Voigt; M. E. J. R.; O'Sh.; Thw.

SCHOLASTIKOS, the Theban, travelled in India a few years before the Chinese missionary Fa Hian, and was detained a prisoner for six months in the pepper districts of Malabar. Some account of his journey is given by Palladius.

SCHORL is found in Madura in great abundance, also in quartz near the mouth of Tavoy river on the east side, and also at the foot of the eastern mountains, near the headwaters of the Dahgyaine, north-east of Moulmein. In both localities in Tenasserim the crystals are numerous, and in Tavoy they are large.

SCHOUTEN. Cornelius Schouten was one of the earliest Dutch voyagers by the west to the Spice Islands. He discovered Cape Horn in 1606, naming it after Hoorn on the Zuyder Zee, his own and Tasman's birthplace. Staten Island, near it, was called after the States of Holland, and Strait Lemaire from the projector of Schouten's voyage.

SCHREBERA SWIETENIOIDES. Roxb.

Weavers' beam tree, ENG. Mava-linga maram, TAM.
Moka, Noka, . . HIND. Moga-linga maram, "
Makkam of NULLAMALLAY? Makadoo chettu, . TEL.

A large timber tree, a native of the valleys of the mountainous parts of the Rajamundry Circars, the Nullamallay range, the Balaghat mountains, the Thull Ghat near Bhewndy, Jowar, the Central Provinces, and the Hala mountains, west of the Indus. Its wood is of a grey or yellowish colour, very close grain, heavy, and durable. It is much employed by weavers for beams and for many other purposes of their looms. It is said not to be liable to warp or bend; and was recommended by Roxburgh as a substitute for box, in the scales of mathematical instruments.—Roxb.; Beddome; Mr. Rohde, MSS.; Major Pearson.

SCIÆNA, a genus of fishes. *S. aquila* (Maigre of the French, and Umbrina of the Romans), etc., is found in the Mediterranean. *S. pama* or *Bola pama* of Buchanan resembles the maigres, but has a singular natatory bladder. When twelve or fifteen inches long, it is called whiting at Calcutta, and furnishes a light diet. It is caught in great abundance at the mouths of the Ganges, but never ascends higher than the tide.

SCILLA COROMANDELIANA. Roxb. A plant of the sandhills of the Coromandel coast.

Scilla Indica, Roxb., Indian squill.

Iskil, ARAB. | Jungle Piaz, . . HIND.
Kanda, Koondree, BENG. | Nurri vungajum, . TAM.
Pa-daing-khyet-thwon, BU | Adavi tella-gadda, . TEL.

This plant occurs on the sea-shores of the Indian Peninsula. When in blossom, the plant is entirely destitute of leaves; the bulbs are round, white, the size of an orange. Its root is bitter and nauseous, like that of squill. It is extensively used in place of the officinal squill. Few plants are so much influenced by climate and circumstances as the squill.—Voigt; O'Sh.

Scilla maritima, Linn.

Urginea maritima, Steinh. | *O. squilla* (a), B. M.
Ornithogalum maritimum, Z. | Iskil, ARAB.

This European plant furnishes the squill used in medicine as a diuretic.

SCINCIDÆ, the skinks, a family of reptiles of the order Sauria or lizards, and sub-class Reptilia. SCINDAPSUS. Schott. A genus of plants of the order Araceæ, sect. Calleeæ, sub-sect. Callineæ. The following are East Indian species:—

- S. caudatus*, —? Penang.
- S. decursivus*, Schott, Sylhet.
- S. giganteus*, Schott, Penang, Singapore.
- S. glaucus*, Schott, Khasaya, Paras, Nepal.
- S. officinalis*, Schott, all British India, Burma.
- S. poepla*, Endl., Sylhet.
- S. pertusus*, Schott, Coromandel, South Konkan.
- S. pinnatifidus*, Roxb.
- S. pinnatus*, Schott, Malayana.

SCIRPUS.

Scindapsus officinalis, Schott.

Pothos officinalis, Roxb.

Gaj pipal, BENG., HIND. | Ati tipili, . . . TAM.
Ouna tipili, . . . MALEAL. | Gaja pippali, . . . TEL.

This perennial plant grows at Calicut, in Bengal, the Monghir mountains, Rangoon, Moulmein, Coochin-China; its dried fruit is used medicinally, and it is cultivated for this purpose at Midnapur.

Scindapsus pertusus, Schott.

Pothos pertusus, Roxb. | Iletadi maravara, MALMAL.

A climbing plant growing on the Coromandel mountains, and on the western coast of India, in the S. Konkans. The pericarp is used in leprosy and scabies.—Roxb.; Voigt.

SCIRPUS, a genus of plants of the order Cyperaceæ. Dr. Roxburgh (i. 200-202) described 41 species of India, most of which have been transferred to other genera. *Sc. junciformis*, Nees, *Sc. juncoides*, Roxb., grows in Bengal. *Sc. kysoor*, Roxb., Keshar, BENG., a plant of Bengal.

Scirpus capsularis, Smith, Tang-sin-tsau, CHIN., is grown in Kiang-nan and Shen-si, in China, for making mats and lamp-wicks; for the latter purpose the consumption is enormous. The Chinese watch the growth of the flower like snuff of lamps and candles, and draw omens from the appearance. The stalks are steamed and the cuticle peeled off, leaving the central white pith, which is used as a tent in surgery. It is used as a pisan or menstruum for other drugs; its ashes are given to children to prevent them crying at night.—Smith.

Scirpus tuberosus, Smith.

Eleocharis tuberosus.

Wu-yu, Puh-tsi, . . . CHIN. | Water chesnut, . . . ENG.
Pi-tai, . . . " | " . . . "

This sedge plant grows wild in watery places in Hu-peh in China. The tubers, called Ti-lik by the Chinese, meaning ground chesnuts, are called by the English water chesnuts; an arrowroot is prepared from it.—Smith.

SCIURIDÆ, a family of mammals belonging to the order Rodentia. The East Indian genera and species are as under:—

Fam. Sciuridæ, or Squirrels.

Sciurus Malabaricus, Schintz., Malabar squirrel.

S. maximus, Blyth, Horsf. | Jangli gilhari, . . . HIND.
Malabar, Wynad, Neilgherries, Travancore.

Sciurus maximus, Schr., Ell., Bly., red squirrel.

Kat berral, . . . BENG. | Karrat, . . . HIND.
Rasu, Ratuphar, . . . " | Kondeng, . . . KOL.
Per-warsti, . . . GOND. | Bet-udata, . . . TEL.

Central India.

Sciurus Elphinstonei, Sykes.

S. Bombayanus, Sch., Ell.

Red squirrel of BOMBAY. | Shekra, . . . MAHR.
Kes-annalu, . . . CAN. | " . . . "

Western Ghats, Malabar, Mahabaleshwar.

Sciurus macruroides, Hodgs. Black hill squirrel.

S. bicolor, var. *Indica*, Bly. | *S. giganteus*, M'Clelland.
Shingham, . . . BHOT. | Le-hyuk, . . . LEP.
S.E. Himalaya, Nepal, Sikkim, Assam, Burma.

Sciurus macrourus, Forst., Blyth, Horsf., Hardw.

S. Ceylonensis, Bodd. | Grizzled hill squirrel, ENG.
Ceylon, S. India.

Sciurus ephippium, Muller, Borneo.

Sciurus lokriah, Hodg., Blyth.

S. subflaviventris, M'Clelland.

Zhamo, . . . BHOT. | Killi, . . . LEP.
Orange-bellied grey, . . . " | Killi-tingdon, . . . " . . . NEPAL.

Orange-bellied grey, . . . ENG. | Lokria, . . . NEPAL.
E. Himalaya, Nepal, Sikkim, Bhotan.

SCIURIDÆ.

Sciurus lokrioides, Hodg., Blyth.

S. lokriah, Gray. | Hoary-bellied grey squirrel.

S.E. Himalaya, Nepal, Sikkim, Bhotan.

S. Assamensis, M'Clell., Sylhet, Dacca.

S. ferrugineus, F. Cuv., N.E. India.

S. erythraeus, Pallas, N.E. India.

S. erythrogaster, Blyth, N.E. India.

S. hyperthrus, Blyth, N.E. India.

S. chrysonotus, Blyth, N.E. India, and also in Tenasserim.

S. hyperythrus, Is. Geoff., N.E. India.

S. Phayrei, Blyth, N.E. India.

S. Blanfordi, Blyth, N.E. India.

S. atrodorsalis, Gray, Tenasserim.

S. palmarum, Gm., Bl., Ell.

S. penicillatus, Leach.

Beral, Lakki, . . . BENG. | Khari, . . . MAHR.

Alalu, . . . " | Vodata, . . . TEL.

Gilhari, . . . HIND. | Urtu, . . . WADDAIR.

Common striped squirrel, Peninsula of India.

Sciurus tristriatus, Waterhouse.

S. palmarum, Ell., Bl. | *S. Kelaarti*, Layard.

S. Brodiei, Layard.

Striped jungle squirrel, Ceylon, Pen. of India, is the most common species of palmist squirrel in Ceylon.

Sciurus Layardi, Blyth, Travancore striped squirrel of Ceylon, Travancore. It has a parachute.

Sciurus sublineatus, Water., Blyth.

S. Delesserti, Gervais. | Neigherry striped squirrel.

Ceylon, forests of S. India, Travancore, Neigherry.

Sciurus insignis, Horsf., Java.

Sciurus M'Clellandi, Horsf., Blyth, Hod.

S. chikura, Blyth. | *S. Pembertonii*, Blyth.

Small Himalaya squirrel. | Kalli gangdin, . . . LEP.

N.E. India, Himalaya, Sikkim, Bhotan, Khasiya.

Sciurus Barbei, Blyth, Tenasserim.

Sciurus plantani, Horsf., Java.

Sciurus bicolor, Blyth, Tenasserim.

Sciurus Brodiei, Blyth, Jafna.

Sciurus Rafflesii, Vig. and Hors., S. Prevostii,

Desmarest, Malay Peninsula.

Sciurus redimitus, Vauder Boon. *S. rufogularis*, Gray, Borneo.

Sciurus Bermorei, Bly., Mergui.

Sciurus Europæus, Linn., North and Central Asia, Europe.

Pteromys petaurista, Pallas, Blyth.

P. Philippensis, Ell. | *P. oral*, Tick.

Brown flying squirrel, ENG. | Pakya, MAHR. of GHAT.

Oral . . . of KOL. | Para-chaten, . . . MALAY.

Forests of Ceylon, Pen. of India, Central India.

Pteromys inornatus, Is. Geoff., Jacq., Blyth.

Pt. albiventer, Gray.

Rusi-gugar, . . . KASHM. | White-bellied flying squir.

N.W. Himalaya, at 6000 to 10,000 feet.

Pteromys magnificus, Hodg., Bly.

P. chrysothrix, Hodg. | *Sciuropterus nobilis*, Gray.

Red-bellied flying squirrel. | Biyom, . . . LEP.

S.E. Himalayas, Nepal to Bhotan, Khasiya Hills,

Assam Hills.

Pt. cinerascens, Blyth, Burma.

Pt. nitidus, Geoff., Malay Peninsula.

Pt. elegans, S. Muller, Java.

Pt. Philippensis, Gray, Philippines.

Sciuropterus caniceps, F. Cuv., Gray, Blyth.

Pt. senex, Hodg.

Grey-headed flying squir. | Biyom chimbo, . . . LEP.

Nepal, Sikkim.

Sciuropterus fimbriatus, Gr., *Blyth*.
P. Leachii, Gray. | Grey flying squirrel.
 N.W. Himalaya, Simla to Kashmir.
Sciuropterus Baberi, *Blyth*, Afghanistan.
Sciuropterus alboniger, *Hod.*, *Blyth*.
S. Turnbulli, Gray.
Piam, *Piyu*, . . . BHOT. | *Khim*, . . . LEP.
 Black and white flying squirrel, Nepal, Bhotan.
Sciuropterus villosus, *Blyth*.
S. sagitta, *Walker*. | Hairy-footed flying squirrel.
 Bhotan, Sikkim, Assam, at 3000 to 6000 feet.
Sciuropterus fusco-capillus, *Jerd.*, *Bly.*, small
 Travancore flying squirrel.
Sciuropterus Layardi, *Kel.*, *Blyth*, Ceylon.
Sciuropterus spadiceus, *Blyth*, Arakan.
Sciuropterus Phayrei, *Blyth*, Pegu, Tenasserim.
Sciuropterus sagitta, *Linn.*
Pteromys sagitta, *Geoff.* | *Sciurus sagitta*, *Linn.*
Sciurus maximus volans, seu *Felis volans*, *Brisson*.
Grand Ecuireuil volant, *Bu.* | *Lo Taguan*, . . . FR.
 This squirrel has a small rounded head. Length,
 from nose to tail, 18 inches; tail, 15 inches
 (Pennant). It inhabits Java and islands. It
 leaps from tree to tree as if it flew, and will catch
 hold of the boughs with its tail.
Sciuropterus Horsfieldii, *Waterhouse*, Malayana.
Sciuropterus genibarbis, *Horsf.*, Malayana.
Sub-Fam. Arctomydinæ, Marmots.
Gen. Arctomys bobac, *Sch.*, *Bly.*, *Pal.*
A. Tibetanus, *Hodg.* | *A. caudatus*, *Jacq.*
A. Himalayanus, *Hodg.*
Bhibi, . . . BHOT. | *Pot sammiong*, . . . LEP.
Lrin, . . . KASHM. | *Kadia-piu*, . . . TIBET.
Cho, . . . LEP.
 Tibet marmot, white marmot of E. Europe,
 Central Asia, Snowy Himalaya, Kashmir to Sikkim,
 at 12,000 to 16,080 feet.
Arctomys hemachalanus, *Hodg.*, red marmot.
A. Tibetanus, *Hodg.*
Chipi, . . . BHOT. | *Sammiong*, . . . LEP.
Drun, . . . KASHM.
 Kashmir, N.W. Himalayas at 8000 to 10,000
 feet.

SCLAVE nations comprise the old Slavonic,
 Russian, Servian, Croatic, Wendic, Slovak, and
 Pole. They were the Sauromata of the Greeks,
 and the Sarmatæ of the Romans; a nation living
 on the Don and near the Caspian Sea. They spoke
 a faulty Scythian dialect.

The Scythic warrior of Central Asia, the intrepid
 Getæ, admitted no meaner representative of the
 god of battle than his own scimitar. He wor-
 shipped it, he swore by it; it was buried with him,
 in order that he might appear before the martial
 divinity in the other world as became his wor-
 shipper on earth. And to the present day the
 sword of the Rajput continues to be worshipped.

SCLERIEÆ. *Nees*. A section of the Cyper-
 acææ or sedges. Two species of *Scleria* occur in
 British India. One, a very long sedge, grows by the
 water in the river Surma near Sylhet, and is used
 for thatching. Boat-loads of it are collected for
 the Calcutta market, also immense rafts of bamboo
 100 feet long.

Scleria lithosperma, *Willd.*

S. tenuis, *Retz.* | *Scirpus lithospermus*, *Linn.*

A sedge of Ceylon, the Peninsula of India, and
 Bengal.

Scleria tessellata, *Willd.*; *S. biflora*, *Roxb.*, a
 sedge of Ceylon, Peninsula of India, Bengal, and
 Nepal.—*Hooker's Him. Jour.* ii. p. 327.

SCLEROSTYLIS ATALANTIOIDES. W.

Limonia bilocularis, *Roxb.* | *Arawi-nim*, . . . TER.
 This small tree or shrub, one of the *Citracææ*, is
 found in the Circars. Its wood is yellow, and is
 always very small, but is very hard, and might be
 used as a substitute for box.—*Roxb Beddome*.

Sclerostylis Ceylanica, *W. Ill.*

Scl. Arnothiana, *W.* | *Rissoca Ceylanica*, *Arn.*

The *Yucca-naara*-grass of the warmer parts of
 Ceylon.—*Thur*.

Sclerostylis rotundifolia, *Thur.*, a small and not
 common tree, growing in Ceylon at an elevation
 of 4000 feet and upwards.—*Thur*.

SCLEROTIUM STIPTATUM. Berk. et Curr.

The Puttu kai or Puttu manga of the Tamils,
 from Puttu, a white ant-hill, and Manga, a mango,
 and Kai, fruit. Mail manga, TAM., from Mail,
 dry, like sticks, leaves, etc., and Manga, a mango.
 On the western coast, where it rains for at least
 six months in the year, this fungus is occasionally
 to be met with in dark crevices, and in the
 recesses of rocks and caves; also in old and
 deserted ant-hills, and frequently after the insects
 have become winged. They are found only in
 the peripheral and more superficial caverns, spring-
 ing from their roof, occasionally from the floor,
 never from the cells occupied by the ants. Some
 grow with long stalks, others are sessile; in those
 having stalks they can in a few be traced beneath
 the soil, while the sessile ones seem simply to lie
 over the soil. They attain the greatest perfection
 during, or immediately after, the rains. They
 take on a variety of forms, being oval, oblong,
 pyriform, irregularly round, etc. The external
 rind is black and slightly wrinkled; on cutting
 into it, the interior is found to be white and pithy,
 and is compared by the natives to the kernel of a
 tender coconut. It is tasteless and inodorous.
 The Malayalam Vythians believe it to be manu-
 factured by the insects themselves, by a kind of
 accretive process, and that snakes are very fond
 of it, and devour it greedily. Snake-charmers
 collect the Puttu manga, and take it round for
 sale, and they give out that they keep a supply
 always on hand with which to feed their snakes.
 The Vythians eagerly seek it, and use it as a
 remedy in cholera, syphilis, and a variety of other
 diseases. In cholera it is prescribed as a specific,
 by rubbing it up with a little water and fresh
 ginger juice or country arrack; and the dose is
 repeated after every motion or act of vomiting.—
Dr. John Shortt.

SCOLOPACIDÆ, a family of birds of the order
 Grallatores or waders, comprising 16 genera and
 33 species, as under:—

- | | |
|----------------------------------|-------------------------------------|
| 1 <i>Ibidorhynchus</i> , curlew. | 1 <i>Calidris</i> , sanderling. |
| 4 <i>Totanus</i> , greenshank. | 1 <i>Philomachus</i> , ruff. |
| 3 <i>Actitis</i> , sandpiper. | 1 <i>Phalaropus</i> , stint. |
| 6 <i>Tringa</i> , stints, knot. | 1 <i>Scolopax</i> , woodcock. |
| 1 <i>Terekia</i> , sandpiper. | 1 <i>Macrohamphus</i> , godwit. |
| 2 <i>Limosa</i> , godwit. | 6 <i>Gallinago</i> , snipes. |
| 2 <i>Numenius</i> , curlew. | 1 <i>Rhynchœus</i> , painted snipe. |
| 1 <i>Eurimorhynchus</i> , stint. | |

This family of birds is interesting to the Indian
 sportsman. The woodcock is everywhere very
 scarce on the plains of India. It is found on the
 Neigherries, occasionally on the plains of the
 Peninsula, and has now and then been met with
 near Calcutta. Some incline to the opinion that
 woodcocks may not be so rare, being commonly
 overlooked in their jungle haunts. The birds
 called woodcock seen at the dinner-table are

generally greenishanks (*Totanus glottis*), and occasionally the black-tailed godwit (*Limosa egocephala*). Two distinct species in the Himalaya are commonly confounded under the name 'solitary snipe,' and both are very different from the Gallinago major of Europe and Northern Asia, which has not been observed in the East Indies. Of the other Indian kinds, one, *Gallinago solitaria* of Hodgson, is peculiar to the Himalaya, and to this species the designation 'solitary snipe' should be restricted. It is readily known by its white belly and yellowish legs, wings longer, straighter, and more acuminate than in the other, and the upper plumage more minutely speckled, with the pale linear markings on the back narrower, and the tail also longer. Average measurement, 12½ inches by 20 in expanse of wings; closed wing, 6½ inches; and tail, 3 inches. Weight, 5 to 6 oz., or even more. The other, *G. nemoricola* of Hodgson, should be distinguished as the wood-snipe, and is more of a woodcock in appearance and habits, though keeping to the outskirts of the jungle. Though principally a Himalayan species, it is not rare in the Neilgherries, and it has been met with in various parts of the country, and in the Calcutta provision bazar. This species has blue legs, and the under parts are uniformly barred throughout; the general colouring dark, and the markings bold; the wings more bowed and rounded than in the other, and the tail shorter. It is only found, remarks Mr. Hodgson, in the haunts of the woodcock, with this difference in its manners, that it is averse to the interior of woods. Length, 12½ inches by 18 in expanse of wings; closed wing, 5½ inches; and tail, 2½ inches. Weight, 5½ to 6½ oz. and upwards.

The 'grass snipe,' also known as the pin-tailed snipe (*G. stenura*), is distinguished by a duller plumage than the common British snipe, and especially by the curious series of pin-feathers on either side of its tail; whereas the other has a fan-shaped tail, altogether different in form. The pin-tailed is the common snipe of the Malay countries, but not of Australia, the Australian (*G. australis*) being a much larger bird, with intermediate form of tail, as in the solitary and wood snipes of British India. In Bengal *G. stenura* is the more abundant species, early and late in the season, as the common or British snipe is during the height of the cold weather; but so early as on the 30th August, one was bought from the bazar in a bundle of pin-tailed snipes, and subsequently the pin-tailed only, in considerable abundance. Nothing is more easy than to distinguish the two species by the shape of the tail, and a practised eye will generally tell them at the first glance; yet very few sportsmen in India are aware of the difference.

The little jack-snipe (*G. gallinula*) is much later in its arrival, though numerous species of small waders arrive from their breeding haunts before the end of August. The jack-snipe has a tail quite different from that of any of the others; in brilliancy of plumage it excels all the rest.

There is a small and distinct species of woodcock in the Malay Archipelago, the *Scolopax saturata* of Horsfield.

The woodcock, identical with the British, has been obtained in the Tenasserim Provinces; it abounds in the Himalaya, is less common in the Neilgherries, and is considered a rare bird in the

mountains of Ceylon. On the Bombay side it is said to be far from common in the Mahabaleshwar.

Of the sub-family Scolopacinae or snipes, the East Indian genera and species are as under:—

Gallinago gallinula, Linn., Sykes, Jerdon, Blyth, Gould, is the jack-snipe. It breeds in the northern regions; it is found in most parts of India, in the cold weather coming later and departing earlier than the common snipe. It prefers thicker coverts, lying very close, and is difficult to flush.

Scolopax rusticola, Linn., Jerd., Blyth.

S. Indicus, Hodgk., Gould.

Holt-snipe, . . .	DAN.	Sim-kukra . . .	of KAMAON.
Woodcock, . . .	ENG.	Blom-rokke, . .	NORWAY.
Becasse, . . .	FR.	Rutte, Krogquist, .	"
Wald schnepfe, . .	GER.	Morkuna, . . .	SW.
Sim titar, Tutatar, .	HIND.	Cyflylog, . . .	WELSH.
Becaccia, . . .	IT.		

The woodcock is a winter visitant to the more elevated wooded regions of India, all the higher ranges of the south of India, Coorg, Shevaroy, Pulney and Neilgherry Hills, and the Himalaya Mountains, and is occasionally seen in the plains of the Peninsula and Bengal, at Madras, Kaladgi, and Masulipatam.

Scolopax saturata, Horsf., Java.

Gallinago nemoricola, Hodgk., Jerdon, Blyth.

Nemoricola Nepalensis, Hodgk.

The wood-snipe or solitary snipe is rare, but is occasionally found on the Himalaya, Neilgherries, Coorg, Wynad, Ceylon, also in the Saharunpur district below Hardwar.

Gallinago scolopacinus, Bonap.

<i>G. gallinago</i> , L.,	Sy., Jer.	<i>S. burka</i> , Lath.,	Bonap.
<i>S. unclavus</i> ,	Hod., Gould.		
Chegga, . . .	BENG.	Bharka, Bharak, .	HIND.
Hosse gioeg, . . .	DAN.	Chaba, Chabar, . .	"
Ziege, Heer schnepfe,	DUT.	Myr-snippe, . . .	IOELAND.
Himels-ziege, . . .	ENG.	Becacino, Pizzarda, .	IT.
Common snipe, . .	ENG.	Hors-glok, . . .	SW.
Watersnip, . . .	FLEM.	Mora ulan, . . .	TAM.
Becassino, Becasseau, .	FR.	Muku puredi, . . .	TEL.
Chevre volant, . . .	"	Yamittau-y-fyniar,	WELSH.

The common snipe breeds in the northern regions, but is a winter visitant to India, arriving in small numbers in the N. of India early in August, and in numbers by the end of September and through October. They are occasionally seen in the Calcutta market early in August, and in that of Madras by the 25th of that month. In Upper Burma, Dr. Jerdon noticed them towards the middle or end of July. Dr. Adams says it breeds there, which Dr. Jerdon doubts. They frequent marshes, rise with a hissing call, fly against the wind, and occasionally alight in a ploughed field.

Gallinago solitaria, Hodgson, Blyth, the Himalaya solitary snipe, found as yet only in the Himalaya, in winter, up to 8000 to 6000 feet, but probably belongs to Tibet.

Gallinago stenura, Temm.

<i>G. gallinago</i> , Jerd.	<i>S. biclavus</i> , Hodgk.
<i>S. heterura</i> , Hodgk.	<i>S. horsfieldii</i> , Gray.

The pin-tailed snipe.

This so closely resembles the common snipe that sportsmen and even naturalists often mistake it.

Rhynchæa Bengalensis, Linn., Sykes, Jerdon.

R. ostenopsis, Linn. *R. picta*, Gray.

R. orientalis, Horsf., Hardw.

The painted snipe is a permanent resident in some parts of India, breeding in June and July in thick marshy ground, but is found through-

out Africa, British India, Ceylon, Burma, and Southern China.—*Jerdon, Birds of India; Horsfield and Moore, Cat.; Indian Field.*

SCOLOPENDRIUM, one of the filices or ferns used in medicine in India. Its rhizomes or dried leaves are sold under the altered name, Iskoolikundrion. Those of Polypodium are called Bulookunboon. The *Asplenium radiatum*, mohrpunkhee, or peacock's fan, is employed by the natives probably as an anthelmintic.—*O'Sh.*

SCOLOPIA CRENATA. *Wight, W. A. Prod.*

Phoberos crenatus, W. A. | Flacourtia crenata, Wall.
P. lanceolatus, Wight, W. | Hillerloo of the Badaga.

This tree is very common on the Shevaroyas, Neilgherries, etc. It is a first-rate wood, and, although white, is very hard and dense. It resists the saw, and injures tools; planks are said to twist. *Phoberos lanceolatus, W.*, has the leaves narrower and more shining, but does not differ otherwise.—*Beddome, Fl. Sylv.*

SCOMBRIDÆ, a family of fishes of the section Acanthopterygii, of which the common mackerel may be regarded as a type. The tunny, sword-fish, dory, boar-fish, pilot-fishes, and the king-fish also belong to this group. The body is generally covered with small scales; the tail is usually very powerful and deeply cleft. In most of the species the pectoral fins are long, narrow, and pointed; the dorsal fins are two in number, the foremost of them being composed of bony rays; the hinder dorsal is chiefly supported by soft rays, and is often divided into numerous small false fins. They are provided with numerous cœca, and these are often united in clusters. The sword-fish, *Xiphias gladius, Linneus*, is an inhabitant of the Mediterranean and Atlantic, occasionally visiting the British coast. It measures from 10 to 15 feet in length. Its body is lengthy and covered with minute scales, the sword forming three-tenths of its length. On its back it bears a single long elevated dorsal fin; there are no ventral fins. The tail is keeled. The lower jaw is sharp; the mouth without teeth. The upper part of the fish is bluish-black, merging into silver below. The sword-fish is said to attack the whale, wounding it with its beak. There are many well-authenticated instances of the planks of ships being perforated by the upper jaw of this powerful creature, which, it has been supposed, occasionally attacks the hulls of ships by mistake for the whale. Specimens of ships' timber penetrated by its sword are preserved in many museums. The *Xiphias* is mentioned by Aristotle (*Hist. Anim.* viii. p. 19), who notices the fact of its striking vessels. The young fish is said to be good eating. When very young, the body is covered with small tubercles, which disappear before it attains the length of three feet. Naturalists arrange the family Scombridae as under:—

FIRST GROUP.—Scombrina.

12 Scomber.	13 Thynnus.	5 Pelamys.
12 Auxia.	9 Cybium.	1 Naucrates.
1 Elacate.	10 Echeiia.	1 Hypsiptera.

SECOND GROUP.—Nomeina.

1 Gasterochisma.	2 Nomeus.	2 Cubiceps.
1 Neptomenus.	1 Platystethus.	1 Ditrema.

THIRD GROUP.—Cyttina.

6 Zeus.	2 Cyttus.	1 Oreoceus.
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FOURTH GROUP.—Stromateina.

9 Stromateus.	3 Centrolophus.
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FIFTH GROUP.—Coryphæina.

6 Coryphæna.	4 Brama.	1 Taractes.
4 Pteraclia.	3 Schedophilus.	1 Diana.
1 Ausonia.	1 Mene.	1 Lampria.

Scomber pelamys, Linn., the bonito, one of the mackerel tribe, inhabits the southern seas, and is often caught by hook and line. Its flesh resembles that of raw beef, and when cooked is not inviting.

Scomber thynnus, Linn., the albacore, is in length from 3 to 6 feet, is an inhabitant of the southern seas; the back is bright purple, with a golden tint; eyes large and silvery, belly silvery, with a play of iridescent colours.—*Bennett, p. 22; Eng. Cyc.*

SCOPARIA DULCIS. *Linn.* Native of every part of the world within the tropics; common in India, particularly near the sea. Used in infusion in ague.—*Voigt, p. 507.*

SCOPOLIA PREALTA. *Dun.*

Belenia prealta, Dne.

Sholar bajar bang, CHEN. | Lang, Tang, . . . LADAKH.
Nandru, Dandarwa, . . . | Khardag, TRANS-INDUS.

Common in waste ground in parts of the Chenab basin from 6800 to 9500 feet in Zanskar and Spiti, and to 16,000 feet in Tibet, and apparently found sparingly in Trans-Indus, in the plains, and perhaps the same plant in one place near Lahore. In the hills the leaves are applied to boils, but are also said to be poison, the mouth swelling from their touch, and the head and throat being affected when they are eaten. A man was poisonously affected by eating the plant gathered in the Lahore habitat; and the Negi of Lahoul, when at Leh in 1867, suffered from its narcotic effects for two or three days, some of its leaves having been gathered by mistake with his sag or greens. At the same time they can hardly be very poisonous to all animals, for in Lahoul they are browsed by cattle. Dr. Christison states that this has the same property of dilating the pupils as belladonna.—*Stewart; Powell; Cleghorn.*

SCORODOPRASUM BORNEENSE, Bawang-utan, the wild onion fruit of Borneo. It is like a walnut.—*Burbridge.*

SCORPÆNA RUBER, or great fire-fish, is eaten by the native fishermen. Its flesh is white, solid, and nutritive.

SCORPION. ENG., FR.

Agraba, Am-aryat, ARAB.	Scorpio, . . . IT., LAT.
Tsien-hieh, . . . CHIN.	Escorpion, . . . SP.
Okrah, . . . HEB.	Tern, Telu, . . . TAM., TEL.
Bichu, . . . HIND.	

The scorpion is one of the Arachnida, order Pedit Palpi and family Scorpionidae, eight-legged, air-breathing, articulate animals, comprising newts, spiders, scorpions. In some parts of the Dekhan scorpions are very numerous in open plains, living in holes about nine lines in diameter. On one occasion the plain at the Gor-Nuddi, used as a parade ground for the Poona Horse, was found pierced in every direction with scorpion holes; perhaps not a foot of ground but had one of these, and in every one was a scorpion. It was a very curious sight, perhaps not rare in India, though unseen or unnoticed. The boys tapped the ground near, to cause a few particles of sand to fall down on the scorpion, on which it would appear at its opening, and the sharp end of a deer's horn was thrust below to prevent its retreat. They were then tied together and made to fight. The scorpion has a curved sting at the end of its

tail. If the sharp point of the sting be cut off, the animal cannot wound or hurt. Scorpions inhabit the hot countries of both hemispheres, live on the ground, conceal themselves under stones and other substances, most commonly in ruins, dark and cool places, and often in houses. They run with considerable swiftness, curving the tail over the back; this they can turn in every direction, and use for the purposes of attack and defence. When irritated, they draw back the clawed palpi for the purpose of defending the head, and at the same time curve the tail on the back, prepared to strike at any moment. Most Asiatics have a quite unnecessary dread of their sting. May you be stung by a scorpion of Cashan, is a common malediction in Persia. With their forceps they seize various small insects, on which they feed after having pierced them with their sting, and they are particularly fond of the eggs of spiders. The pain suffered from the scorpion's sting seems to depend more upon the temperament of the sufferer than any other cause; some suffering much agony, occasionally terminating in death, while others become only slightly agitated. The remedies employed are the volatile alkali, chloroform used externally and internally, and, externally, ipecacuan in form of a paste. The favourite remedy now in the United States is the 'whisky cure,' which, under the form of arrack, combined in the case of a scorpion sting with a poultice of chewed tobacco, was known for the last fifty years to the British soldier in India. *Buthus aser*, *Linn.*, the great black scorpion of Ceylon, is as large as a little cray-fish; its sting occasions a little inflammation. Small birds wounded by a scorpion tremble, stagger, soon fall down, become convulsed, and die. It is said that a scorpion, if surrounded by fire so as to be prevented escaping, stings itself to death. Infested spots seem to have been common in Palestine and Mesopotamia, as in Numbers xxxiv. 4; Joshua xv. 5; Judges i. 36; 1 Maccabees v. 3. The males are smaller than the females; the penis is double, and placed near the combs; the females have two vulvæ; during copulation they are placed upon their backs. They are ovoviviparous, eggs 40 or 60 in number, and gestation lasts for a year.—*Eng. Cyc.*; *Burton, The City of the Saints*, p. 193; *Wallace*.

SCORPION FISH, *Saccobranchus fossilis*.

SCORPION SPIDER. Species of the genus *Galeodes*, or scorpion spiders, occur in Central Asia, Tartary, and in the Himalaya. The scorpion spiders common on the steppes are the *Galeodes araneoides* (*Phalangium araneoides* of Pallas). The *Galeodes* (or *Solpuga*) are dreaded for their bites, reputed to be venomous; but this is now denied by naturalists. This very formidable and most voracious spider is a terrible pest on the Astracan steppe, where its bite is much dreaded by the Kalmuks, who call it the 'black widow' (*bel-bussan charra*). They harbour chiefly under the tufts of wormwood, and about the bones which are always to be found near a Kalmuk habitation, and also at the mouth of the deserted nests of the *Spermophilus citillus*, where they collect a sort of bed of leaves. Camels seem to suffer most from these spiders, because they are most addicted to lying on the ground.

Galeodes vorax, *Hutton*, of Northern India, feeds at night on beetles, flies, and even large

lizards, sometimes gorging itself to such a degree as to become almost unable to move, and remaining torpid and motionless for about a fortnight. A sparrow, as also a musk-rat (*Sorex Indicus*), put along with it, were killed by it. It was seen to attack a young sparrow half-grown, and seize it by the thigh, which it sawed through, then caught the bird by the throat, and put an end to its sufferings by cutting off its head. Dr. Baddeley confined one under a glass wall-shade with two young musk-rats (*Sorex Indicus*), both of which it destroyed. In neither instance did the galeodes devour its prey after killing it. Capt. T. Hutton, in the eleventh volume of the Asiatic Society's Journal, p. 860, makes mention of a lizard bitten by one being allowed to escape with only a severe wound on the side, and as it lived for some days before being permitted to run off, the bite of the galeodes would not appear to be poisonous.—*Gosse*, pp. 237, 238; *Tenn. Ceylon*, p. 470; *Capt. Hutton, in Jour. As. Soc. of Ben. xi. part ii. p. 860*.

SCORPION, TAILLESS. Three species of the tailless scorpions have been noticed in Ceylon, all with the common characteristics of being nocturnal, very active, very minute, of a pale-chestnut colour, and each armed with a crab-like claw. They are *Chelifer librorum*, *Temp.*, *Ch. oblongus*, *Temp.*, and *Ch. acaroides*, *Herm.* The latter species has certainly been introduced from Europe, in Dutch or Portuguese books.—*Tennent's Ceylon*.

SCORZONERA HISPANICA, *Linn.*, is an annual from the south of Europe, sown in India either in beds, broadcast, or planted out in rows at a distance of a foot apart; has a long milky-juiced root; grows without any difficulty after the rains. The root when boiled and dressed is rather a delicate vegetable. It comes to perfection in three or four months. Salsafy, the black scorzonera, requires the same treatment. Two species occur in the Himalaya. In China, the *Meh-men-tung* is a species of scorzonera, called viper's-grass; its root is eaten as a vegetable.—*Jaffrey*; *Smith*.

SCOTLAND is supposed to be mentioned in the Puranas. On the east coast of Scotland are many megalithic monuments, several of which bear sculptures of serpents, while others, apparently of almost equal antiquity, bear the cross.—*Darwinism in Morals*, p. 189.

SCOTOPHILUS, a genus of bats, of which the species are *Sc. Coromandelianus*, *falcatus*, *fuliginosus*, *fulvidus*, *Hodgsoni*, *leisleri*, *lobatus*, *pachyomus*, *pumiloides*, *scrocinus*. They are of the family *Noctilionidae*.

Sc. Coromandelianus, *Fr. Cuv.*, is a very small bat, not much larger than the humble bee, and of a glossy black colour.

SCOURING-LEAVES, of the *Actea aspera* and *A. spicata* of China, are used for cleaning pewter vessels.

SCREENS, the tattis of Europeans in India, are made of fragrant or other grasses, and are suspended over the house doors and windows, and wetted with water, to cool the interiors. In China, glazed and varnished papers are largely used for screens. In Japan, the *Ama-do* is an outside sliding shutter. *Fu su-ma* are sliding paper screens. The *shoji* is a sliding screen with translucent paper.

SCREW PINE, Kaldera bush, Umbrella tree.

Vacca of Mauritius, FR. | Thaum, Thaley, . TAM.
Kora, HIND. | Thalay mazali, . . .
Sithy nar, . . . TAM.

The screw pine, the *Pandanus odoratissimus* of botanists, grows in Africa, Madagascar, Bourbon, the Mauritius, Ceylon, in the Peninsula of India, Burma, and Malaya, being very common along the sea-coast. The leaves are used for making mats, baskets, and hats; there are extensive manufactories of these articles at Pulicat, Cuddalore, and several other localities. The leaves, as soon as gathered, have the spines stripped off their edges, the dorsal nerve is stripped off, and the leaf divided into slips of the breadth proper for the use for which they are required. The fibre of the leaf is white, soft, and pulpy, but possessed of little strength. It appears to be a good material for the preparation of paper, but ill suited for cordage. The aerial roots are much used as coarse brushes for whitewashing houses; when beaten with a mallet they open out like a soft brush. The tender white leaves of the flower yield a delightful fragrance.—*M. E. J. R.*

SCROPHULARIACEÆ. *Lind.* The fig-worts, a natural order of plants, very widely diffused over the surface of the earth, being found in the whole range of climate between the poles and tropics. 36 E. Indian genera and 166 species are known:—

1 Vebascum.	Scoparia.	5 Linderbergia.
1 Celcia.	12 Linaria.	12 Stemodia.
8 Scrophularia.	1 Antirrhinum.	7 Limnophila.
3 Mazus.	5 Pterostigma.	3 Buchnera.
3 Mimulus.	3 Bonnaya.	1 Sutura.
5 Herpestis.	9 Vandellia.	7 Buddlea.
Curanga.	6 Torenia.	1 Hemiphragma.
3 Dopatrium.	2 Artanema.	Gerardia.
2 Pephidium.	8 Striga.	

SCULPTURES. Monuments, decorated buildings, and sculptured texts have been the principal modes which the various rulers and their wealthy subjects have adopted to perpetuate their edicts, their names, and fame. The history of the ancient races in all the south of Asia is to be read in their sculptures, and that of Egypt, Assyria, Babylonia, and British India is being daily added to by means of relics which are being exhumed after an interval of 2000 or 3000 years. The Jews were forbidden to make the likeness of anything in the heavens above, or on the earth beneath, in order to bow down and worship it. But with the Egyptians of old, and with the Hindu and Buddhist religionists now, the art of sculpture is the very pillar of their religion; the priests in every temple first made (and still make) their god, and then worshipped it; as in Exodus xx. 4, the Egyptians worshipped figures of the sun as Ra, and of the stars as the other gods, as also images of men, beasts, birds, and fishes; but the earliest examples of Indian sculpture are to be seen in the rails of Budh Gaya and Bharhut of the age B.C. 250 to 200. Elephants, deer, and monkeys are better represented there than in any sculptures known in any part of the world; so too are some trees, and the architectural details are cut with an elegance and precision which are very admirable. The human figures, too, are truthful to nature, though differing from the European standard of beauty and grace, and where grouped together combine to express the action intended with singular felicity.

In the first century of the Christian era, there arose in the extreme N.W. of India, in the Panjab, and to the W. of the Indus, a school of sculpture strongly impregnated with the traditions of Greek art, and which continued to flourish there for the first five centuries of the Christian era. What the Buddhists were to the architecture of Northern India, that the Greeks were to its sculpture. Greek faces and profiles constantly occur in ancient Buddhist statuary, and particularly pure in the Panjab. Proceeding southwards from the Panjab, the Greek type begins to fade. Purity of outline gives place to lusciousness of form. In the female figures the artists trust more to swelling breasts and towering chignons, and load the neck with constantly accumulating jewels. Nevertheless the Grecian type long survived in Indian art. It is perfectly unlike the coarse conventional ideal of beauty in modern Hindu sculptures, and may perhaps be traced as late as the delicate profiles on the Sun Temple at Kanarak, built in the 12th century A.D. on the Orissa shore. Borrowing an impulse from Greek models, the Buddhist sculptors, at the commencement of the Christian era, freed themselves from the oriental tradition, which demands only the gigantic and the grotesque, and imitated nature with some success. But with the revival of Brahmanism, Hindu sculpture again degenerated, and it possesses a religious rather than an æsthetic interest.

In the 4th and 5th centuries, at Amraoti, a school of sculpture was developed partaking of the characteristics both of those of Central India and of the west, and the degree of art displayed by sculpture there may be regarded as the culminating point attained by that art in India. In the subsequent sculpture of the early Hindu temples and later Buddhist caves, it has lost much of its higher æsthetic and phonetic qualities, and frequently resorts to expedients of doubling the size of principal personages, and of distinguishing gods from men by giving them more heads and hands than ordinary beings. This is done with considerable vigour and richness of effect in the temples of Orissa and Mysore; and in the south of India some of the most remarkable groups and statues continued to be executed down to the middle of the 18th century. But though the technic art of architecture continues to be practised with considerable success, their paintings and sculptured decorations excite only feelings of dismay, the result of the deterioration of moral and intellectual power.

Many of the Vaishnava temples all over India are disfigured by obscenities, and those in the temples of the Lingaet sect, between the Tum-budra and the Godavery, are unexampled; but the Saiva shrines are generally free from all such, though at Khajuraho in Bundelkhand is one with gross obscenities.

General A. Cunningham believes that the Buddhist sculptures of the Indo-Scythic period, found in the Eastern Panjab at Shahbazgarhi, show traces of Grecian art. In all Indo-Greek sculptures, whenever a face is partly turned to one side, that side is invariably cut away to nearly flatness, so as to give a deeper shadow to it and a greater prominence to the unturned side. There are also fine specimens of Indo-Corinthian pillars. He thinks the great mass

of them belong to the most flourishing period of Indo-Scythic rule under Kanishka and his immediate successors, or from B.C. 40 to A.D. 100. The beauty of some specimens is great. Athene with spear and helmet, now in the Lahore museum, may date as early as B.C. 80.

The Indo-Persian style prevailed over the whole of Northern India, both before and after the Christian era. Its prototype is to be found in the famous pillars of the Achaemenian palaces at Persepolis and Susa. In the N.W. of India, it was supplanted by the three different styles of Greek architecture, by the Indo-Corinthian in the Kābul valley, by the Indo-Ionic in Taxila, and by the Indo-Doric in Kashmir. But no specimens of these styles have been found to the east of the Sutlej, whereas the Indo-Persian style was spread over the whole of Northern India, from Kābul to Orissa, and from the banks of the Ganges to the source of the Godavary. Numerous specimens of it may be seen in the sculptures of Bharhut, Gaya, and Sanchi, and in the actual pillars of Mathura, Nasik, Bedsa, and Orissa.

The Hoisala Bellala temple at Somnathpur is triple, the cells with their sikras being attached to a square pillared hall; elegance of outline and marvellous elaboration of detail characterize these shrines. The great temple at Baillur has a very solid vimana, with an anterala or porch, and stands on a terrace about 3 feet high and 10 to 15 feet wide. It was erected by Vishnu Verddhana, to commemorate his conversion by Ramanuja from the Jain to the Hindu faith.

At Hullabid is the small shrine of Kait Esvara, covered with sculptures of the very best class of Indian art. The great double temple there rises 25 feet from the terrace, but was left uncompleted. It is built of indurated potstone, erected in a block, and sculptured afterwards. On the terrace stands a frieze of elephants, above it a frieze of the Sierdala conventional elephants, the emblems of the Hoisala Bellala; then comes a scroll of infinite beauty, and over it a frieze of horsemen and another scroll, over which is a bas-relief about 700 feet in length, of scenes from the Ramayana, representing the conquest of Ceylon, and all the varied incidents of that epic. At another part are figures of all the Hindu Pantheon; Brahma occurs three or four times, Siva with Parvati on his knee is repeated fourteen times, Vishnu and his avatars still oftener. All that is wild in human fancy, or warm in human feeling, is found portrayed on these walls.

In the architecture of Southern India, a sculpture of frequent occurrence are groups of the Yali; a monster of the lion type is represented trampling on an elephant, or a warrior sitting on a rearing horse, his feet on the shields of foot soldiers, sometimes slaying men, sometime tigers,—both of them barbarous monstrosities.

Paliya stones over the graves of those who have fallen in battle, and Sati stones, are common in Gujerat and Cutch, and the Paduka or foot sculptures on the monuments of Sadhus, are very numerous. The older Paliya are sculptures showing the style of dress and warlike accoutrements of olden times,—chain armour, horses in mail, bows and arrows, swords of various shapes, shields, javelins, etc. etc., and not unfrequently the names of the reigning princes with dates, as that of Lakha Phulani at Adkot.

The sculptures in Kashmir, at Sanchi, Benares, Amraoti, Madura, Trichinopoly, Tanjore, and Mahaballipuram have attracted much notice, as also have those in the cave temples at Ellora, Ajunta, Elephanta, and the edicts of Asoka at Girnar and other places.

The Amraoti sculptures belong to a period of 300 years later than those of Sanchi, and the topes illustrate the faith at their date. In the Amraoti sculptures are numerous priests and other signs of a clerical order segregated from the laity and of an established ritual. Sanchi is illustrative of the Hinayana Buddhist philosophy, 500 years before the oldest Buddhist book; and Amraoti illustrates the Mahayana philosophy, 800 years after its promulgation.

The sculptures on every ancient temple in India throw some light on the subject of old costume. These are probably considerably within the Christian era, and they furnish specimens of the local costumes of 1000 years ago; but many temples in the south and west of India, as also in Gujerat and Orissa, etc., are known to belong to periods as early as A.D. 500. But although groups of figures are numerous beyond description, their attire seems to be entirely conventional. Men for the most part wear head-dresses in the form of conical crowns richly covered with ornaments; their bodies are naked, and their breasts and arms show necklaces and armlets of very ornate patterns. From the loins to the knee or middle of the thigh, they have in most instances kilts, as it were, also composed of ornaments; and many are altogether nude, both male and female, with a girdle of ornamental pattern round the loins. These figures abound among the sculptures of Ellora and to the 13th century; also upon the Cholla temples at Conjeveram and elsewhere, probably of the same era. In the Jain sculpture the male and female figures are invariably naked, but ornamented in general with necklaces, bracelets, armlets, and zones of exceedingly intricate and beautiful patterns, in imitation, probably, of the chased gold work of the period.

Some of the men's figures on the temples of the south of India are clothed with defensive armour, and there is no trace of a sewn garment. The men's figures have short waist-cloths or dhotis, like kilts, with an end in some cases cast over the shoulder; the women are in the same costume; but both in the earlier memorial stones and on some of the profuse sculpture on the temple at Hullabid in Mysore (Dhara Samudra, 10th to 12th century A.D.), they wear bodices, tied in front, as Hindu women wear them at present.

The best representations of ancient costume in India are the celebrated fresco paintings in the caves of Ajunta. In the Buddhist caves of Ellora some paintings in a similar style had been executed; but they were destroyed by the Muhammadans when they invaded the Dekhan early in the 14th century, and it is extraordinary that those of Ajunta escaped their iconoclastic and fanatic zeal. They did escape, however, and for several years Major Gill, of the Madras army, was engaged by Government in copying them on their original scale. It is difficult to decide the date of the Ajunta paintings, which represent scenes in Buddhist history; and the series may extend from

the first or second century before Christ to the fourth and sixth century of our era. In either case they are upwards of 1000 years old. One very large picture, covered with figures, represents the coronation of Sinhala, a Buddhist king. He is seated on a stool or chair, crowned with a tiara of the usual conventional form; corn, as an emblem of plenty and fertility, is being poured over his shoulder by girls. He is naked from the throat to the waist. All the women are naked to the waist; some of them have the end of the cloth, or saree, thrown across the bosom, and passing over the left shoulder. Spear-men on foot and on horseback have short waist-cloths only. In another large picture, full of figures, representing the introduction of Buddhism into Ceylon and its establishment there, all the figures, male and female, are naked to the waist. Some have waist-cloths or kilts only, others have scarfs, or probably the ends of the dhotis thrown over the shoulders. Female figures in different attitudes around, are all naked, but have necklaces, ear-rings, and bracelets; and one, a girdle of jewels round.

Later structures have been raised by Muhammadans. In Northern India the best buildings date from the 12th to the 16th century (A.D. 1193-1554). They were erected during the Pathan domination, and are contemporaneous with the best period of European art, that is of the Christian era. The epoch which witnessed the art-glories of Rouen and Chartres, of Paris under Philip Augustus, of Rheims, Loan, and Noyon, of Troyes and Dijon, participated in the triumphs—only tempered by a low degree of civilisation—of Pathan warriors, who, justly ambitious to perpetuate the conquest of the Hindus, employed their subjects to erect for them a series of buildings in the capital of Delhi, which are among the most remarkable in India. No isolated monument, at least of the 13th century, exists anywhere to equal in beauty, strength, or dimensions the celebrated Kütüb Minar; and the magnificent range of arches which form part of the ruins of the Great Mosque, as the Kütüb, are only less beautiful, from certain defects of construction, than the pointed openings of Christian cathedrals, which, however, they rival in colossal proportions. The 14th century—in France almost barren of art reminiscences, owing to foreign invasion and intestine wars—is remarkable as the epoch when English art first acquired its individuality. At the same period, a like individuality was growing out of the many buildings erected by the Hindus for their Muhammadan masters. In striking contrast with the delicate ornament of Netley, Tintern, and Melrose, with the fortifications of many an English city, and the spires of many an English church, are the mausoleum of Taghalaq Shah, the city he erected and called after his name, the villages of Kirkhee and Begampur, the Jumaat Khana mosque, and the tombs around it, all of which display a stern simplicity, more characteristic of the Anglo-Saxon than the native mind, as well as knowledge of construction and power of execution, combined with mathematical precision in the application of building materials to their logical uses. The arrangements introduced to supply the wants of the ruling race, and the skilful adaptation of an indigenous method of building to the manners and customs

of the Muhammadan, are as astonishing as they are successful. In the 14th century neither European nor Asiatic sacrificed utility to beauty; they sought to adorn the parts of their construction, never to construct their ornament. To them a dome was the outward and visible expression of its internal shape; if a kiosk was introduced, it was to crown a staircase, add weight to an angle, or to serve some other useful purpose. Marble was legitimately employed to cover a dome or a kiosk, to form a border to an archway inscribed with sentences from the Koran, or in perforated screens exquisitely carved. It is possible to 'read' such buildings; they are sermons in stones, they are works of art. The plains of Delhi disclose little to mark the 15th century. A mosque full of details of marvellous originality, and other buildings created by Humayun, the gateways of Arab ki serai, and many a nameless sepulchre, fairly represent the 16th; though Humayun's tomb discloses a falling off in knowledge of constructive principle. The works of Akbar, in the 17th century, present a host of ideas to inquiring men astonished to find so many proofs of bodily vigour and masculine intellect such as it seems difficult to ascribe to an Indian population.

But the era of the European renaissance exhibits in the north-west of India a still more remarkable spectacle. There rose in the city of Agra a building of white marble, which, viewed at sunrise or sunset, in the heat of the day, or by chill moonlight, conveys to the eye impressions of grace and beauty such as no photographic skill can seize, no painter or architect delineate. Forgetting that the dome is as false as it is useless, that a so-called symmetry is obtained at the expense of propriety and sense, and that a species of mosaic which should serve to decorate a lady's boudoir is unfitted for the exterior of a colossal mausoleum,—the Taj Mahal remains the most magnificent architectural effect to be found in the whole world. The men of the 17th century who created it were artists in the highest sense of the word, but they were content to please the eye, while their predecessors of the 14th aimed at satisfying the mind also.

A raised platform, 313 feet square and 18 feet high, faced with white marble, has at each corner a minaret 133 feet in height. In the centre stands the mausoleum, a square of 186 feet, with 33 feet 9 inches of its corners cut off. The centre of this is occupied by the principal dome, 58 feet in diameter and 80 feet in height, under which is an enclosure formed by a screen of trellis-work of white marble. Within this, in its centre, is the over tomb of Mumtaz Mahal, and on one side that of Shah Jahan, the tombs being in vaults immediately below. In every angle of the building is a small domical apartment, two storeys in height, 26 feet 8 inches in diameter. All the spandrels, all the angles and more important architectural details, of pure white marble, and the tombs and screens are inlaid with agates, jaspers, bloodstones, combined in wreaths, scrolls, and frets, exquisite in design and beautiful in colour.

Aurangzeb ordered a structure over his daughter Rabia at Aurangabad, and in the beginning of the 19th century an imitation was erected at Lucknow. The black-ground mosaics at Delhi are similar

to the Florentine mosaics, and are thought to have been introduced by Austin of Bordeaux, a jeweller who was much employed by Shah Jahan. The mosaics on a white ground are to be seen in the buildings of Lahore, Dehli, Agra; the Taj Mahal and the palace of Shah Jahan, at Agra, contain the most numerous and finest examples. They resemble the white ground mosaics of Europe, as seen in trays, tables, and fancy-work.

Austin or Augustin de Bordeaux executed a mosaic of Orpheus or Apollo playing to the beasts, after Raphael's picture, which was in the throne-room there. It was brought to London to the India museum.

The Indians owe their knowledge of the pietrودuro art of inlaying in precious stones to Florentine artists. Up to the erection of Akbar's tomb at Sikandra, in the first ten years of Jahangir's reign, A.D. 1605–1615, there are numerous mosaics of coloured marble, but no sample of inlay. In the tomb of Itimad-ud-Dowlah, A.D. 1615 to 1628, both systems are in perfection. In the Taj and the palaces at Agra and Dehli, built by Shah Jahan, A.D. 1628–1668, the mosaic has disappeared, being entirely supplanted by the inlay.—*Fergusson*, pp. 33, 362, 388, 405, 588, 596; *Cunningham*, v. viii; *Burgess*; *Mor. and Mat.*, 1868–89.

SCUTELLARIA, a genus of plants of the family Lamiaceæ, section Scutellariæ. Handsome plants when in flower, adapted for the front of borders; the colours are purple, yellow, red, or blue. *S. viscidula* is the Hwang-k'in of China; its roots and seed are used medicinally.

S. colebrookiana, *Wall.*, Peninsula of India.

S. discolor, *Coleb.*, Khasya and Nepal.

S. indica, *Linna.*, Malabar, Malabar, China, Japan, Moluccas.

S. rivularis, *Wall.*, Nepal and China.

S. scandens, *Buch.*, Nepal and Kamaon.

S. violacea, *Wight*, Peninsula of India.

—*W. &c.*; *Riddell*.

SCYLAX, B.C. 550, was the first European who is known to have visited India. He was sent by Darius to explore the Indus, and wrote an account of his journey. The next historian of India was Ctesias, who lived for some years at the Persian court of Artaxerxes Mucmon, B.C. 427. Herodotus, however, followed Scylax as an authority, but it was not until the expedition of Alexander, B.C. 327, that a body of able observers, trained in the school of Aristotle, were able to give accurate ideas to Europe of the condition of India; and of these writers, Megasthenes is far the most important. He lived at the court of Chandragupta, at Palibothra, as an envoy from Seleucus I. According to him, the military force of Chandragupta consisted of 600,000 infantry, 30,000 cavalry, and 9000 elephants. India seems to have been known to the Greeks only as a country that, by sea, was to be reached by the way of the Euphrates and the Persian Gulf; and though Scylax had, by the order of Darius, dropped down the river Indus, coasted Arabia, and thence reached the Red Sea, this voyage was either forgotten or disbelieved, and in the time of the Ptolemies it seems probable that nobody thought that India could be reached by sea from Egypt; and Eudoxus of Cyzicus in Asia Minor came to Alexandria to persuade Euergetes to give him the command of a vessel for this voyage of discovery. A vessel was given him; and though he was but badly fitted out, he

reached by sea a country which he called India, and brought back a cargo of spices and precious stones. He wrote an account of the coasts which he visited, and it was made use of by Pliny. But it is possible that the unknown country, called India, which Eudoxus visited, was on the west coast of Africa, for Abyssinia was often called India by the ancients, and all east of the Euphrates was also known as Hind or India.—*Perry's Bird's-eye View of India*, p. 52; *As. Res.* x. p. 113.

SCYLLIIDÆ, a family of fishes, of which the following species occur in the Indian Ocean:—

Scyllium marmoratum, *Benn.*, E. I. Archipelago.

S. maculatum, *Bl.*, *Schn.*, Australian Seas.

S. capense, *M. and H.*, Cape, India.

S. burgeri, *M. and H.*, Japan, E. I. Archipelago.

Ginglymostoma Mulleri, *Gthr.*, India.

G. brevicaudatum, *Gthr.*, Zanzibar, Seychelles.

G. concolor, *Rupp.*, Red Sea, Indian Ocean, Archipelago.

Stegostoma tigrinum, *Gm.*, Indian Seas.

Chiloscyllium malaisianum, *Less.*, Archipelago.

C. indicum, *Gm.*, Cape to Japan.

C. punctatum, *M. and H.*, Java.

Crossorhinus barbatus, *Gm.*, Australia and Japan.

C. dasypogon, *Blkr.*, Archipelago.

SCYTHIA, Sakadwipa, also Sakatai, the country of the Sakæ, was a term in use by the ancient Greeks and Romans, of a very indefinite character, but it was generally understood to mean the territories occupied by the nomadic tribes who roamed over the regions from the north of the Black and Caspian Seas, eastwards into the countries now known as Mongolia and Tartary. Ancient European literature further distinguishes Scythians into those of Europe and those of Asia; the former are supposed to have occupied the country from the Danube to the sources of the Dniester and the Dnieper, in the neighbourhood of the Don, and along the northern shores of the Black Sea. The portion between the Danube and the city of Carcinia was called Old Scythia; and the peninsula (Taurida) to the Borysthènes was called Little Scythia; and in the time of Strabo, Little Scythia included the country as far as the Danube, previously occupied by the Thracians. These European Scythi seem to have been colonists from Asia.

Of the migrations into India of the Indo-Scythic Gætæ, Takshak, and Asi, that of Schesmag from Schesmagdes (Takshak from Tachariasthan), six centuries before Christ, is the first noticed by the Puranas. About the same period a grand irruption of the same races conquered Asia Minor, and eventually Scandinavia; and subsequently the Asi and Tachari overturned the Greek kingdom of Bactria. The Romans felt the power of the Asi, the Katti, and Cimbri from the Baltic shore; and the Scythic tribes who have entered India as conquerors, are the Gætæ, the Takshak, the Asi, Katti, Rajpali, Hun, and Kamari.

Colonel Tod supposes the Asi and Tachari to be the Aswa and Takshak or Toorshka races of the Puranas of Sakadwipa, and the Dahæ to be the Dahya, one of the 36 royal Rajput tribes, now extinct.

The martial tribes whom Alexander encountered in the Panjab, were of Scythian descent. During his two years' campaign in the Panjab and Sind, Alexander captured no province, but he made alliances, founded cities, and planted Greek garrisons. At Taxila (Deri-Shahan) and Nikaia (Mong) in the Northern Panjab, at Alexandria (Uchh) in the Southern Panjab, at Patala (Hyderabad) in

Sind, and at other points along his route, he established military settlements of Greeks or allies.

During the next 700 years, Scythic tribes of the Su, the Saka, the Hun, Naga, and the Getæ, made continuous and several successful efforts to settle. About B.C. 126, the Tartar tribe of Su are said to have driven out the Greek rulers from Bactria. The Græco-Bactrian settlements in the Panjab were overthrown by the Tue-Chi; and during the rule of Kanishka, who held the fourth Buddhist council about A.D. 40, Scythic settlements were formed as far south as the districts now known as the Central Provinces.

Scythian races more than once overthrew the prior rulers, and more than once sustained great defeats; but some of the Rajput dynasties, and also the Jat, the ancient Getæ, retained a permanent hold on the country east of the Indus and southwards to the mouth of that river, and one Jat prince is now ruling in Bhurtpur, another in Dholpur.

The Sah of Saurashtra (B.C. 60-70), the Gupta of Kanauj (A.D. 319-470), and the Valabhi of Cutch (A.D. 480-722), seem to have opposed successive hordes of Scythians. But Mr. Fergusson believes that it was the White Hun who overthrew the Gupta dynasty between A.D. 450 and 475, and that the Saka and the Hun were finally overthrown at the great battles of Karur, near Multan and Maushari, which that learned writer supposes to have been fought between A.D. 526 and 544.

During these struggles for dominion, Vikramaditya, a king of Ujjain, about B.C. 57, drove back one Scythic invasion, and his victory gave rise to the Samvat era still current in India. Salivahana, another king of Southern India, is supposed to have successfully checked another Scythic invasion, A.D. 78, from which event the Saka era is reckoned; but the victory did not secure permanent advantages, for Cosmos Indicopleustes, who traded in the Red Sea about A.D. 535, speaks of the Hun as a powerful nation in Northern India in his day.

The Jat divide with the Takshak the claim of being the parent name of the various tribes called Scythic invaders of India; and Colonel Tod possessed an inscription of the 5th century, applying both epithets to the same prince, who is invested moreover with the Scythic quality of worshipping the sun. It states likewise that the mother of this prince was of the Yadu race; strengthening their claims to a niche amongst the thirty-six Rajcula, as well as their Yadu descent. The fifth century of the Christian era, to which this inscription belongs, is a period of interest in Jat history. De Guignes, from original authorities, states that the Yue-chi, or Jat, established themselves in the Panjab in the 5th and 6th centuries, and the inscription alluded to applies to a prince whose capital is styled Salindrapura in these regions, and doubtless the Salivahanpur, where the Yadubhatti established themselves on the expulsion of the Tak. How much earlier than this the Jat penetrated into Rajasthan, must be left to more ancient inscriptions to determine; but in A.D. 440 we find him in power.

The evidence of coins and the names of Indian tribes or reigning families, such as the Saka, the Hun, and the Naga, point to Scythian settlements as far south as the Central Provinces of India.

The Jat, who form nearly one-half of the in-

habitants of the Panjab, are identified with the Getæ, and their great subdivision the Dhe, with the Dahæ, whom Strabo places on the shores of the Caspian. The existing division between the Jat and the Dhe has been traced back to the contiguity of the Massa-Getæ and the Dahæ, who dwelt by the side of each other in Central Asia. A similar descent has been traced to certain of the Rajput tribes, and until the 5th century A.D., the Jat and the Rajput intermarried.

The northern or Tibetan form of Buddhism, represented by Kanishka and his council in A.D. 40, made its way south to the plains of Hindustan, and during the next six centuries competed with the earlier Buddhism of Asoka. The Chinese Pilgrim, in A.D. 629-645, found both the northern or Scythic and the southern forms of Buddhism in full vigour in India.

As Chandragupta, who freed India from the Greeks, is celebrated in the drama Mudra-rakshasa, so Vikramaditya, the vanquisher of the Scythians, forms the central royal personage of the Hindu stage.

Another popular era, the Saka, literally the Scythian, takes its commencement in A.D. 78, and is supposed to commemorate the defeat of the Scythians by a king of Southern India, Salivahana. During the seven centuries which followed, three powerful monarchies, the Sah, Gupta, and Valabhi, established themselves in Northern and Western India. The Sahs of Saurashtra are traced by coins and inscriptions from B.C. 60 or 70 to after A.D. 235. After the Sahs come the Guptas of Kanauj, in the N.W. Provinces, the middle land (Madhya-desh) of ancient Brahmanism. The Guptas introduced an era of their own, commencing in A.D. 319, and ruled in person or by viceroys over Northern India during 150 years, as far to the south-west as Kattyawar. The Gupta dynasty was overthrown by foreign invaders, apparently a new influx of Huns or Tartars from the north-west (A.D. 450-470). The Valabhi succeeded the Gupta, and ruled over Cutch, Surat, Broach, Kaira, and part of Baroda and Malwa, from A.D. 480 to 722. Hiwen Tshang, 630-640, gives a full account of the Valabhi and of the prevailing Buddhist religion. The Valabhis seem to have been overthrown by the early Arab invaders of Sind in the 8th century.

Mat-Wan-lin, on the authority of Chinese historians, says the Yue-Chi or Scythians invaded India about B.C. 26, and remained in India till A.D. 222. According to Dr. Bhau Daji, these Yue-Chi appear to have been the Abhira.

In the time of Ptolemy, the geographer, a large part of North-Western India was occupied by the Indo-Scythians. In the Nasik cave inscriptions, Ushavadata, the son-in-law of Nahapana, is called a Saka, and a Saka Sena is mentioned in the Kenheri caves. The prophetic chapters of the Puranas mention 16 Saka kings, 8 Yavana, 7 Abhira, and 10 Gardabhilla kings.

The Scythians who occupied the Yuzufzai country were the Sakæ and Tochari.

The Takka or Takshaka were a Scythian migration about the 6th century B.C. Their settlements in the 4th century B.C. seem to have extended from the Paropanisian range in Afghanistan, to deep into Northern India, and are supposed to have been the great serpent race, the Naga, often mentioned in Sanskrit literature; both Naga and

SEA.

Tukshaka mean snake; and they were tree and serpent worshippers. The Greek invaders, B.C. 327, found the Takka settled in the Rawal Pindi district, for which, from the 12th century, another Seythic race, the Ghakhar, had been fighting.—*Elphinstone's India; Tod's Rajasthan*, i. p. 36; *J. A. S. B.* vi. p. 677; *Imp. Gaz.*

SEA.

Bahr,	ARAB.	Mare,	IT., LAT.
Ping-le,	BURM.	Mar,	SP.
Mer,	FR.	Samandram,	TAM.
See,	GER.	Samudra,	TEL.
Darya,	HIND., PERS.	Dengiz,	TURK.

Sea of China, Bahr-ul-Mahit; Indian Ocean, Bahr-ul-Akhsar; Red Sea, Bahr-ul-Ahmar; Mediterranean, Bahr-ul-Rum; Dead Sea or Sea of Lot, Bahr-i-Lut; sea flow and ebb, Madd-o-Jazr; sea breeze, Nasim-i-Bahr; sea chart, Kinar-Namah; sea-coast, Kinar, Sahilah-Ripa; sea compass, Kiblah-Nooma; sea ear, Darya gosh; sea-horse, Faras-ul-Bahr, Hippocampus; seaport, Bandar; sea-shell, Sadf, Sipi.

As wavelets dash upon a reef, they are lit by what the Arabs call the 'jewels of the deep,' and the superstition is, that these flashes of light are jewels made to adorn the necks and hair of the mermaids and mermen. When removed from their native elements, the gems fade and disappear. There are some ideas similar to this among the Scotch and other northern people. The colour of the sea greatly varies in different parts of the globe. It is white in the Gulf of Guinea, black around the Maldives, vermilion off California (caused by the red colour of the infusoria it contains), and green in the Persian Gulf and over all coral rocks. In the Arctic Sea it undergoes rapid transitions from purity to opacity, from ultramarine to olive-green, the green colour being caused by myriads of minute insects which prey on each other. The sea-shore residents in tropical countries wait every morning with impatience the coming of the sea-breeze. It sets in about eleven o'clock. Then the sultry heat of the oppressive morning is dissipated, and there is a delightful freshness in the air, which seems to give new life to all in their daily labours. After sunset there is again another calm. The sea-breeze is now done, and in a short time the land-breeze sets in. This alternation of the sea and land breeze, a wind from the sea by day and from the land by night, is so regular in intertropical countries, that it is looked for by the people with as much confidence as the rising and setting of the sun. The oppressive heat of the sun and the climate of the sea-shore is mitigated and made both refreshing and healthful by the alternation of those winds, which invariably come from the coolest place,—the sea, which is the cooler by day, and the land, which is the cooler by night. About ten in the morning, the heat of the sun has played upon the land with sufficient intensity to raise its temperature above that of the water. A portion of this heat being imparted to the superincumbent air, causes it to rise, when the air, first from the beach, then from the sea, to the distance of several miles, begins to flow in with a most delightful and invigorating freshness.

SEA-BEAVER, *Enhydra marina*, the Kalan of the Kamtschadales; *Mustela Lutris* of Linneus; *Lutra marina* of Steller. Captain Cook in his last voyage says that this animal haunts

SEA-HORSE.

sea-washed rocks, lives mostly in the water, and approximates to the seals more than to the otters in its habits. Their food is fish. The female brings forth on land, and notwithstanding the general marine habits of the animal, it has been occasionally seen very far from the shore. It is found in the North Pacific from Kamtschatka to the Yellow Sea on the Asiatic side, and from Alaska to California on the American coast (Richardson). The fur was eagerly sought after, and is still prized, but not so highly as formerly.

SEA-COCOANUT.

Cocotier de Maldives, FR.	Zi-calappers, . . .	SINGH.
Cocos-de-mer,	Kuddal tayngai, . .	TAM.
Darya-ka nari,	Samutrapu tainkaya,	TEL.
Ubdie narikaylum, SANSK.		

This is the fruit of the *Lodoicea Seychellarum*. It resembles two cocoanuts fastened together; it is convex on one side, and almost flat on the other, oblong, and somewhat pointed at both ends. The shell is dark-coloured, and contains a kernel not unlike that of the ordinary cocoanut, but drier, harder, and more insipid. They are often seen floating in the sea off the coasts of Arabia and Africa, whence they are brought to Bombay; and also from the Laccadive and Maldiva Islands, where the tree grows. The shells are made into drinking-cups and scallops, which are used by the Indian devotees. The kernel is used medicinally by native practitioners in cases of typhus fever, etc.

Sea-cocoanut of Tenasserim is the fruit of the *Xylocarpus granatum*, Kon., the *Carapa Moluccensis*, Lam., very common in the mangrove swamps, and growing near the shore; its fruit falls into the water, and floats out upon the sea, which gives rise to its name. The fruit is not edible, but is exceedingly astringent, and is regarded by the natives as a specific in cholera.—*Faulkner; Mason*.

SEA-COW of Behring Straits is the *Rytinia Stelleri*, a sirenian. It lives on sea-weed.

SEA-EAGLES are species of *Pandion*, *Poliætus*, *Haliætus*. See Eagles.

SEA-EAR, species of the *Haliotis*, a genus of the *Haliotidae* of the mollusca.

SEA-ELEPHANT of Tristan da Cunha and Kerguelen's Land, *Moringa elephantina*. It attains to 12 feet in length.

SEA-GYPSIES, a name by which sailors designate the Baju-laut, a seafaring people of the E. Archipelago, and also the Selones of the Mergui Archipelago.

SEA-HAWK, or frigate bird, the *Atagen aquilus*, is also called the man-of-war bird and the boatswain. It has short feet, and cannot swim or dive. It is intermediate between the predaceous sea and land birds. It attacks the smallest birds, and makes other fishing birds abandon their prey. It is of immense endurance, takes great flights, and rises to vast heights in the air. It ranges through all tropical seas, and hovers over the tropical waters. It has been seen 400 leagues from land. Its expanded pinions measure 14 feet from end to end.—*Bennett*.

SEA-HORSE, a fish of the genus *Hippocampus*, one of the *Syngnathidae*, the head of which assumes a bent position like the head and neck of a horse.

SEA-HORSE, a mammal of the Arctic seas. Their teeth are brought from California and

other parts of Western America, and are used by the Chinese in the same manner as ivory. They are the teeth and tusks of the walrus and other cetaceous animals.—*Morrison*.

SEAL, the name of a family of amphibious animals, valued for the oil obtained from the fat or blubber, and also for their skin, which is used for a variety of purposes, largely for ladies' cloaks.—*Faulkner*.

SEAL.

Khatm,	ARAB.	Sigillum,	IAT.
Cachet,	FR.	Nagin,	PERE.
Petchafte,	GER.	Sellos,	PORT, SP.
Mahr, HIND., PERS. TURK.		Mutra, Mudra,	TAM.
Sigilli,	IT.	Muhurie,	TURK.

The seals of oriental nations are used for ornament, and as signet-rings. The Anguliya mudra, or finger-ring seal or signet, has from the earliest periods been commonly used in the east. Ahasuerus takes his signet off his hand, and gives it first to Haman, and again to Mordecai; and Herodotus notices that each of the Babylonians wore a seal-ring. The Greeks and Romans had their rings curiously engraved with devices, and that cast by Polyocrates into the sea was the work of an engraver whose name the historian has not thought unworthy of commemoration. The seal is alluded to also in the Demagogues of Aristophanes.

Seals in the form of signet-rings are in general use amongst the Muhammadans of Arabia, Persia, Afghanistan, and India, for affixing the names of their owners, instead of writing their names, although many of them could write. When the document is finished, he takes the signet-ring from off his finger, generally the little finger, and, smearing it with ink, stamps it on the document. The putting on the wedding-ring by a bridegroom amongst many Christian nations seems to betoken an endowment by him of all his worldly goods, as in the case of Jezebel in 1 Kings xxi. 8, and Esther viii. 8-10. The seal of Solomon, Mahr-i-Suliman, is the Swastika.—*Hind. Theat.*

SEA-LEAF INSECTS or sea-spiders, species of *Phyllosoma*.

SEA-LEMONS, the *Doridæ* family of mollusca, comprising ten recent genera.

SEA-LEOPARD of Kerguelen's Land, is the *Stenorhynchus leptonyx*, Gray. It resembles the seal of the British coats.

SEALING-WAX.

Cire d'Espagne,	FR.	Lak,	MALAY.
Cire de cacheter,	"	Burgutsch,	RUS.
Seigellack,	GER.	Lacre,	SP.
Chap-ka-mom,	HIND.	Arakku,	TAM.
Cera lacca,	IT.	Lakka,	TEL.

This is a composition of gum-lac, melted and incorporated with resin, and afterwards coloured with some such pigment as vermilion, ivory-black, etc. It is used for sealing letters, legal instruments, etc.

SEA-LION, *Otaria jubata*, and the Cape eared-seal, *O. pusilla*, are known also as eared-seals and sea-bears. They form a very distinct group of marine carnivorous animals, and are readily distinguished from the true seals by their small external ear.

SEA-LIZARD, *Glaucus hexapterygius*, Cuv. It is about an inch long, with brilliant colours.

SEA-NETTLE, species of medusæ. Ships often meet vast numbers of young sea-nettles drifting

along with the Gulf Stream. They are known to constitute the principal food for the whale, but the habits of the right whale are averse to the warm waters of the Gulf Stream.—*Moury*, p. 48.

SEA-SLUG, *Holothuria*, *sp.*, the trepang of the Malays, and the attai of the Tamil people; from 9 to 12 inches long, and 3 or 4 broad; are collected on the Ramnad and Tinnevely coasts. This animal is abundant on the banks of the Aru Islands. The greater portion is caught in shallow water, where it can be picked up off the bank without diving. They are largely exported to China.

SEA-SNAIL, species of the *Ianthina* mollusc, *I. fragilis*.

SEASON. In Oudh, the seasons (rit) are divided into six periods of about two months each,—Sard, Sisir, Him, Basant, Grikkham, Pawas. The Vedic races, who seem to have occupied several countries before entering N.W. India, divided the year into six seasons,—Vasanta (spring or flowery), Grishma (the hot season), Varsha (the rainy), Sarada (the sultry season), Hemanta (the frosty season), and Sisira (the dewy season). These divisions indicate their residence in a colder country than British India, and where the seasons were more numerous and more marked.

Throughout almost all British India, there are three seasons, cold, hot, and rainy, and in Sind only two, the Siyaro or the cold season, which lasts from Ashwina to Phalgun, a period of six months; and the hot season in the other six months.

Hindus of Northern India divide the year into three seasons, viz. Chou-massa or Burk'ha, constitutes the four months of the rainy season. The rest of the year is comprised in Secala, Jara or Mohasa, the cold season; and Dhoob-kala or Khursa, the hot season.

Amongst the Hindus, as amongst other races, many of the religious festival days or holidays relate to the changes in the seasons, at the new year, when the sun turns northwards, and at the vernal and autumnal equinox. In illustration may be mentioned the Ganesh Chaturthi or Chauthi, which falls about the beginning of September. On this day was born Ganesh, called also Ganpati, made from the turmeric and oil off the body of Parvati. He is the god of wisdom, who removes obstacles, and is invoked at the commencement of all undertakings. Ganpati has a man's body, with the head of an elephant. His head is said to have been cut off or destroyed by Siva, when Ganesh tried to prevent Siva entering the chamber of Parvati while bathing. Clay images are made, and worshipped for from one to nine days, and then thrown into water. The Chin Chor or Chinchwad, who resides at a village of that name near Poona, is believed to be an incarnation of Ganesh, who promised an ascetic named Meroha, who lived in Sivaji's time, that he would be incarnate for seven generations in his family. The earth image of Ganesh is one of three forms, in which the earth deity Mrittika is worshipped by Hindus,—the first, the Nagapanchami, on which feast a snake of clay is worshipped; the second is Gekul Ashtami, when a clay image of the infant Krishna is worshipped; and the third occasion is that on which Ganesh is worshipped, and this last day of the worship of Mrittika is observed with great pomp. The rahan or carriage of Ganesh is

a rat. The feast in honour of his birth is held on the 4th of the month Bhādrapad, falling on the first days of September. Ganesh is brought to the house with much pomp.—*Jaffrey; Elliot.*

SEA-URCHIN of the Philippines, of the genus *Asthenosoma*, *Grube*, has short spines, hollow and tubular at their extremities, containing poison. When these spines penetrate the flesh, a sharp stinging pain is felt like that of a wasp-sting.

SEA-WEEDS, or Algæ, are cellular flowerless plants belonging to the class Thallophytes of botanists. Algæ are found both in salt and fresh water, have a wide geographical range, and in the domestic economy and manufactures of man they are of no little importance. *Chondrus crispus*, the Carrageen moss, supplies a nutritious article of diet as a demulcent, in the form of decoction or jelly. The tangles *Laminaria saccharina* and *L. digitata*, also the dulce and species of *Porphyria* and *Ulva*, known as the green and purple lavers, are used as food; and nearly all the species of *Laminaria*, *Alaria*, and *Fucus* are used as manure, or are burnt for kelp, an impure carbonate of soda, and iodine is extracted from them.

Of the *Conferveæ* in the seas of the south and east of Asia, are to be found the *Ulva latissima*, *Linn.*, and *U. crista*, *Lightfoot*, and *Porphyra vulgaris*, *Ag.*, lavers valued in scrofulous cases. The last named is gathered by the Hakims of Sind just before the monsoon, and given along with emulsion of almonds. *Ulva reticulata*, *Forsk.*, is a very beautiful reticulated sea-weed of the Eastern Archipelago.

Of the *Fucaceæ* or sea-wracks, the *Sargassum bacciferum*, or sea-grapes, occurs in all seas. *Fucus distichus*, *Linn.*, *F. nodosus*, *L.*, and *F. vesiculosus*, *Linn.*; the tangles, *Laminaria bulbosa*, *Ag.*, *L. digitata*, *L. saccharina*, *Lam.*, with *Zonaria pavo-nia*, *Ag.*, *Dictyota dichotoma*, *Lamour.*, also *Chorda-ria flagelliformis*, *Ag.*; *Bryopsis plumosa*, *Ag.*, *Codium bursa*, *Ag.*, and *C. tomentosum*, *Stack-house*. Of these *Fucaceæ*, *F. vesiculosus* is supposed to be the basis of the popular Anti-Fat; its vesicles, and their tincture, and the calcined powder, are given in glandular swellings and in rheumatism. *F. distichus* is a deobstruent. *Laminaria saccharina*, *Lam.*, is brought to India from the Caspian Sea, and it is said from the Tibetan lakes, and in the form of a syrup, with a decoction of quince seeds, is a favourite remedy in syphilitic eruptions; it is also burned into kelp. When dried in the sun, a whitish manna-like substance exudes.

Of the *Ceramiceæ* the rose tangles, several genera occur, viz. *Callithamnion corymbosum*, *Ag.*, *C. plumula*, *Lyngbye*, with *Ceramium pedicellatum*, *Ag.*, and *C. rubrum*, *Ag.*; also *Chondrus crispus*, *Lyngbye*, and *Rhodymenia jubata*, *Grev.*; and the *Chondrus crispus* is employed instead of isinglass for making blancmange and jellies.

To the *Siphonaceæ*, or green algæ, belong *Udotea*, *Halimeda* and its allies.

To the *Corallinaceæ*, or red algæ, belong *Lithothamnion* and allied genera.

Sea-weeds commonly eaten by the Burmans are the *Gigartina spinosa*, *Grev.*, which is the *Agar-agar* of the Malays, and the *Sphærococcus lichenoides*, *Ag.*, the Ceylon moss of commerce. These are usually called by the Burmans *Kyauk-pen*.

The whole coast from Shan-tung to the south of

China, and all the coasts of Corea and Japan, furnish large quantities of sea-weed, species of *Laminaria*, *Rhodymenia*, *Iridaea*, etc., which by the Chinese are made into size, jelly, and many excellent dishes of their food. The sea-weed known in British India as *Gillur-ka-patta* (HIND.) is supposed to be gathered at the mouth of the Saghalin river. The Chinese regard a diet of sea-weed as cooling but debilitating. The *Kwan-pu* or tangle is given in dropsies. The *Yang-tsai* of the Chinese is a clarified sea-weed; is made in Japan, and exported to China, and is said to be classed as isinglass.

The Japanese go out in their small boats to the rocks, and with long sticks, to which is attached a piece of iron to serve as a knife, they sever the weed from the rock or bottom of the sea. The instrument may be 20 feet long, the blade about 18 inches. This weed is a valuable export from Japan; it is edible, and, with rice, constitutes part of the Chinese cuisine. It is exported to China, and then sent up to those countries where salt is dear, being lighter as merchandise, and well adapted for cooking.—*Hodgson's Nagasaki*, p. 63; *Smith's M.M.C.*; *Murray*.

SEB, a divinity of the ancient Egyptians, analogous to the Chronos of the Greeks and Latina. With them the egg of the goose was the emblem of Seb. Seb, also Seo and Sev, a mode of pronouncing the name of the Hindu god Siva, whose emblem is the conical-formed lingam.—*Bunsen*.

SEBASTIAN DEL CANO, commander of the *Vittoria*, one of the ships which formed Magellan's fleet. He returned round the Cape of Good Hope, and arrived at San Lucar on the 6th September 1522, the only survivor of the fleet which had sailed from the same port on the 20th September 1519, and thus completed the circumnavigation of the globe.

SEBESTAN, *Sebestena*, *Sebestens*, also *Lobesten*; *Lesura*, HIND.; *Buhoori*, BENG., are dried fruits, distinguished as smaller and larger, of *Cordia angustifolia*, *C. myxa*, and *C. latifolia*. The fruits are edible, but seem only to contain unawky mucilaginous pulp. These were formerly used in Europe, but now by the native practitioners of the east only. The dried fruits are very glutinous, and are esteemed expectorant. The seeds of *Cordia myxa* are called *Chakoon ki binj*, and deemed an infallible remedy in ring-worm, the powder mixed with oil being applied to the eruption.—*O'Sh.*; *Honig*, p. 343.

SECAMONE EMETICA. *R. Br.*
Periploca emetica, *Retz.* | *Asclepias angustifolia*, *R.*
Asclepias pseudosarsa. | *Shada-boori*, . . . BENG.

Grows common in the southern parts of the Peninsula of India at the foot of mountains. Roots acrid and emetic.—*Roxb.*

SECHIN, the same with *Ekhon*, the place of burial of the emperors of China.—*As. Res.* vi. p. 484.

SECRET SOCIETIES exist in China and Japan. The Komoso Society of the latter country is a semi-monastic institution not unlike the Order of Templars. Its existence was formally recognised by the government in the early part of the 17th century, and certain lands were granted to it by the Tokugawa dynasty of Shoguns. The society was filled from the ranks of the samurai

class alone, by assuming the white robe of the Komoso. None were admitted into the ranks of the brotherhood who had been guilty of the meaner crimes. The chief was invested with a priestly character, and usually resided at the chief temple in the province of Owari. He had power of life and death over his fellows, and was so far independent of the Government that he could put any of the brethren to death, provided he formally reported to the authorities that he had punished an offender against the laws of Komoso, according to its recognised rules. He was not required to specify the offence for which punishment had been inflicted. The society has never, it seems, been a large one, as, after a man had availed himself of the privileges of asylum which the fraternity afforded, he often retired to his own province, using the Komoso as a sanctuary. Men have been known to join the society with a view to carry out in safety plans of revenge on the murderer of a relative, taking refuge in the same temple in the dress of the brotherhood. The tragic climax of such a situation is reached, when the avenger carries out the vendetta by killing the man he sought, in spite of all oaths and bonds of union. The triad society of the Chinese seems to have been partly political, partly religious.

SECUNDERABAD, in lat. $17^{\circ} 26' 30''$ N., long. $78^{\circ} 33'$ E., is the military cantonment of the Subsidiary Force provided by the British for the defence of the Hyderabad territory. It extends from 4 to 10 miles north of the city of Hyderabad, and is 1830 feet above the sea. It is the largest military cantonment of British India, the troops of all arms being about 5000 in number. The cantonment bazar, formed in Secunderabad town, had 7938 houses in 1868, with an estimated population of 32,000. Adjoining the Secunderabad cantonment to the north is the Polarum cantonment, one of the stations of the Hyderabad Contingent, under the immediate authority of the British Resident at the court of His Highness the Nizam. About two miles south of Secunderabad cantonment, between it and the city, are the regimental lines of the Hyderabad Reformed Troops, belonging to H.H. the Nizam, comprising artillery, cavalry, and infantry, under the command of a European officer. About 8000 soldiers of all arms are located on that portion of the plateau.—*Imp. Gaz.*

SECUNDER BEGUM. In 1817, Nazir Mahomed, minister of Bhopal, married the daughter of the previous nawab of Bhopal, and concluded a treaty with the British Government which guaranteed the country to himself. On his death, the widow, Kudsia Begum, then 17 years of age, became regent, and a marriage was arranged for his only daughter, Secunder Begum, with his nephew, Jahangir Muhammad Khan. In 1837, Kudsia Begum was pensioned, and Jahangir Muhammad was duly invested as nawab. But from Jahangir's misconduct, Secunder Begum left him, and went to reside with her mother, till his death in 1847, when she was appointed sole regent for her only child, a daughter. She was formed to rule, from her abilities, her resolution and lofty aspirations, and she brought the State into perfect order. During the revolt of the Bengal army, and the rebellion in Northern India in 1857-59, she sheltered British officers, put down her own

mutinous contingent, and gave peace and order to her territory and help to the British, and the British rewarded her with additional territory, and in 1863 with the Grand Cross of the Star of India. She died 30th October 1868, after a rule as regent and queen of 21 years. She left one child, a daughter, Shah Jahan Begum, who at once succeeded. She too had one daughter, Sultan Jahan Begum, who was installed 16th December 1868, and was married 1st February 1875 to Mir Ahmad Ali Khan Bahadur, a nobleman of Afghan descent.

SECUNDRA, a town in Northern India; its name is probably from Secunder Lodi. In Secundra was laid the great Akbar. The quadrangle of his mausoleum is enclosed by high embattled walls, to break the monotony of which there are four octagonal minarets at the four corners, and four colossal gateways on the four sides. The space within is laid out in walks, flower-beds, orangeries, and groves of mango.—*Tr. of Hind.* ii. pp. 9, 10.

SECUNNY. ANGLO-HIND. A steersman, from Sukhan, a helm.

SEDASHEGHUR, a village on the western side of India, lying between two hills, on the banks of the Kali Nuddi. The lighthouse on the Oyster Rocks in the bay is in lat. $14^{\circ} 49' 15''$ N., and long. $74^{\circ} 2' 45''$ E.—*Findlay.*

SEDASHEO RAO BHAO, briefly designated in India the Bhao, was the cousin of the Peshwa Balaji Rao. Sedasheo Rao fell in the battle of Panipat, fought on the 6th January 1761.

SEDGE, plants of the natural order Cyperaceae, a large tribe of grass-like plants with solid though slender stems, and the sheaths of the leaves not split in front as in grasses. Growing in every country, and some of the species widely distributed, are found on the sea-shore, on the tops of mountains, in marshes, ditches, and running streams, on meadows and in forests, and several of them furnish useful products. Hassocks, mats, brushes, etc., are made of the wiry stems and leaves of species of sedge (*Carex*). A few secrete fecula in their tuberous root-stocks, as the water-chestnut of the Chinese, etc.; others secrete a little volatile oil, as *Cyperus longus* and *C. rotundus*. The creeping rhizomes of *Carex arenaria*, and of a few allied species, are sometimes used medicinally under the name of German sarsaparilla. An Indian species, *Cyperus tegetum*, *Roxb.*, called *Papyrus pangorei* by Nees von Esenbeck, the Madookati of the Bengalees, and which is extremely common about Calcutta and in Bengal, is very extensively employed for making the elegant, shining, and useful mats for which the capital of India is famous, and which are frequently imported into Europe. The culms or stalks of the plant when green are split into three or four pieces, which in drying contract so much as to bring the margins in contact, in which state they are woven into mats, and thus show a nearly similar surface on both sides. The strips are tied up in bundles about 4 inches in diameter and 4 feet in length, and seem also well adapted for making paper and ropes. The papyrus of the Egyptians belongs to this order, and is still called *Babeer* in Syria. It is about 15 feet high; the exterior tunic of the stems, cut in bands and pressed, formed the paper of ancient Egypt and Europe; the leaves, which are several feet long, served for the

same purpose, but were of inferior quality. This paper is but little liable to decay. Pliny, for instance, relates that the book of the laws of Numa-Pompilius was found in Rome in a high state of preservation, after having been buried nearly six centuries in the earth.

The cotton grass, *Eriophorum* of Europe, is a conspicuous ornament of tuft-bogs and marshy moors, from having its seeds clothed at the base with a silky or cotton-like substance. With this pillows are sometimes stuffed, and wicks of caudles, as well as paper, made. There is a species of the genus very common in the Himalaya, both in low valleys and at considerable elevations. This, Dr. Royle named *Eriophorum cannabinum*, in consequence of his finding it everywhere employed in making ropes for all ordinary purposes by the mountaineers. Its name, bhabhur and bhabhuree, has a considerable resemblance to that of the papyrus, considering that the b and p are letters so frequently interchanged for each other. All who have scrambled up the steep slopes of the Himalaya will remember the great support they have received from the toughness of the tufts of the bhabhur. Specimens of the dried leaves are made up into bundles about 3 feet in length; twine is made from it; this, though rough, is strong and well fitted for ordinary purposes. In the Himalaya the bhabhur holds a conspicuous place, from its extensive use and most abundant supply throughout the whole of the hills, affording a most economical substitute as an article of cordage, in lieu of others of a more costly and durable nature. All the jhula or rope bridges, which are erected over the large rivers where the sanga or wooden-planked bridges cannot be made, on all the principal thoroughfares of the Garhwal district, are constructed of this silky species of grass, the cables of which are of a considerable thickness. These rope bridges are a very safe means of communication over the large and rapid rivers intersecting different parts of the country, both for travellers and men with loads, and, where the footway and sides are properly laced with brushwood, afford an easy enough roadway for loaded sheep, but neither ponies nor cattle can travel over them. This grass grows abundantly in all the ravines of the sides of the mountains, and is to be had only for the cutting, but it is not of a very durable nature, though pretty strong when fresh made into ropes. It lasts about a twelvemonth only, or a little more, and the people in charge of the rope bridges are constantly employed in repairing and annually renewing the ropes and stays. The chinks, or temporary bridges of a single cable, upon which traverses a seat in the shape of an ox-yoke, are also sometimes made of this grass. There are few of them useful for fodder.—*O'Sh.* p. 628; *Royle's Ind. Fib.* p. 85; *Trans. Agric. Soc. of India*, viii. p. 272; *Cat. Ex.*, 1851; *Captain Huddleston on the Fibres of Garhwal*. See *Cyperaceæ*.

SEDIL or Chedil. TAM. An apparatus used for suspending men and swinging them in the air in honour of the goddess Mari-amma, as in the Charkh Puja of Northern India.

SEDUM ACRE, Fuh-kiab-ts'au of the Chinese, a pretty plant of Europe and China; the juice is used in China for burns and scalds. The Chinese name means Buddha's nails.—*Smith*.

SEED.

Taz, Tazec,	CHIN.	Semen,	LAT.
Semence,	FR.	Banih, Bij, . . .	MALAY.
Same,	GER.	Tukhm,	PERS., TURK.
Binj,	HIND.	Veri,	TAM.
Seme,	IT.	Vittu,	TEL.

In commerce, the grains of several species of gramina. Those of most importance, in a commercial point of view, are flax or linseed, rape-seed, mustard-seed, hemp-seed, and gingelly or sesamum seed. The imports into India are small,—about 1500 tons annually, value three lakhs of rupees; but the exports are large,—in 1882-83, to the value of over seven kror.

Essential oil-seeds, . .	44,076 cwt.	Rs. 2,38,524
Earth-nuts,	265,743 "	13,13,918
Linseed,	6,724,514 "	3,52,84,813
Mustard,	23,145 "	1,37,750
Poppy,	571,542 "	30,26,401
Rape-seed,	2,821,420 "	1,57,06,129
Til or gingelly, . . .	2,308,242 "	1,46,45,453
Other sorts,	370,749 "	16,72,943

SEEHOO, a lake of China. On its borders stands the wealthy and extensive city of Hang-chu-fu. The surrounding scenery is accounted one of the grandest as well as the most beautiful in all China. The Lui-fung-ta, or tower of the thundering winds, standing on the point of a promontory jutting into the lake, forms a bold object. It is said to have been built in the time of Confucius. In the Vale of Tombs, the variety of monuments is almost infinite.—*Macartney's Embassy*, i. p. 28.

SEEKHAN, a piece of iron about a cubit long, with which fakirs pierce their necks and cheeks. Also an Arab musical instrument, used by the Arabians who frequent the Malabar coast.

SEEMANTONNAYANA. SANSK. From Simanta, the place on the head where the hair divides, and Oonayana, a raising up. Amongst Hindus, during the marriage ceremony, the bridegroom first pulls the veil over the face of the bride, and then, turning it up again, draws a line with red lead down the centre of her forehead. To this ceremony this word alludes.

SEEDORSAT, in Persia, provisions supplied to travellers of rank, from the villages that they pass through; possibly from Sair, a journey, Rasad, provision.

SEER or Ser. HIND. A measure used in all retail dealings, but it varies according to the article sold, from 25 to 84 rupees weight, i.e. from 4500 to 15,120 grains.

SEERANO, an allowance given to the town shepherds of India.

SEER-FISH of Europeans, in Ceylon, is the *Cybum guttatum*. The Singhalese call it the tora-malu. Seer-fish frequently migrate to fresh waters to breed, or for prey.

SEET-SEEN. BURN. In Amherst it is a red, compact, very ponderous, and highly valuable wood, used for the construction of religious houses.—*Cat. Ex.*, 1851.

SEUL GUDA. TEL. The torpam pillu grass of the Tamils; the stalks used in pinning together, for food-platters of the Hindus, the leaves of the *Butea frondosa*, *Ficus Indica*, and *F. religiosa*.

SEGHALIN, Seghalien, or Tarakai, is an island lying between lat. 45° 54' 2" and 54° 24' N., and long. 141° 40' and 144° 46' E. It is about 600 miles in length, and from 20 to 100 broad. It is well wooded and fertile, and coal is found in many

places, especially about Jonquiere Bay. Two-thirds of the northern part belong to Russia, and is peopled by Ghilak. The aboriginal races of Yezo, whose severe treatment by the Japanese led them to other countries, occupy the southern part of Seghalin.

SEGHUR or Sigur, a mountain pass running down the north face of the Neilgherry Hills, from Mutinad to near the village of Seghur, lat. $11^{\circ} 29' 11''$ to $11^{\circ} 31' 40''$ N., and long. $76^{\circ} 43' 30''$ to $76^{\circ} 43' 35''$ E. It is practicable for laden carts and other wheeled conveyances, and is the most frequented of all the Neilgherry Ghats.—*Imp. Gaz.*

SEHESNAGI. The Takshak race entered Hindustan, led by a conqueror termed Sehesnag, from Sehesnagdesa. He ascended the Pandu throne, and after 360 years his line terminated in ten descents, with Mahananda, of spurious birth. This last prince, who was also named Bykzat, carried on an exterminating warfare against the ancient Rajput princes of pure blood, the Puranas declaring that since the dynasty of Sehesnag the princes were Sudras. A fourth dynasty commenced with Chandragupta Mori, of the same Takshak race. The Mori dynasty consisted of ten princes, who are stated to have passed away in 137 years. See Takshak.

SEHESRA ARJUNA, of the Lunar race, called also Sehesra Bahu, was of the Hi-hya tribe. He founded Mahesvati on the Nerbadda, still existing in Maheswar. In the Bhavishya Purana, Sehesra Arjuna is termed a chakravarta, or paramount sovereign; also that he conquered Kurkotaka of the Takshak, Toorshka, or Snake race, and brought with him the population of Mahesvati, and founded Hemanagara in the north of India, on his expulsion from his dominions on the Nerbadda. Traditionary legends yet remain of this prince on the Nerbadda, where he is styled Sehesra Bahu, or 'with a thousand arms, figurative of his numerous progeny.' He was expelled from Mahesvati by the Solar race.

SEHL, one of the princes of the Bharat, who founded Aror.

SEHWAN, the ancient Sindomana, is built on the extremity of a spur from the Baluchi range. The pass of Sehwan has a picturesque appearance from the river, with its rocky mountains rising in terraces along the bank, and its old ruined castle, supposed to have belonged to the Alexandrian age. Sehwan town is in lat. $26^{\circ} 26'$ N., and long. $67^{\circ} 54'$ E., and gives its name to a sub-district of Kurachee in Sind; of area 3646 square miles; pop. (1872), 162,836 souls. It contains the Manchhar or Manchur Lake; the Laki Range, an offshoot from the Khirthar mountains, and the Jatil Hills; the principal canals being the Western Nara, the Aral, the Phito, and the Karo. There are several hot springs. The people are largely supported by the offerings of pilgrims at the shrine of Lal Shahbaz, whose tomb is enclosed in a quadrangular edifice, said to have been built in A.D. 1356. It is covered with a dome and lantern, and has beautiful encaustic tiles with Arabic inscriptions. Mirza Jani of the Tarkhan dynasty completed a still larger tomb to this saint in A.D. 1689. The gate and balustrade are said to have been of beaten silver, the gift of Mir Karm Ali Khan Talpur, who also crowned the domes with silver spires. Sehwan fort, ascribed to Alexander the Great, is an artificial mound 240 or 270 feet

high, measuring round the summit 1500 by 800 feet, and surrounded by a broken wall. The remains of several towers are visible. Tradition asserts that the town was in existence at the time of the first Muhammadan invasion of Sind by Muhammad Kasim, Saffi, about A.D. 713; and it is believed to be the same place which submitted to his arms after the conquest of Nerankot, the modern Hyderabad.—*Imp. Gaz.*; *Postan*.

SEIR ABONEID, in lat. $25^{\circ} 14'$ N., and long. $54^{\circ} 22'$ E., an island $2\frac{1}{2}$ miles long and 2 miles broad, on the south side of the Persian Gulf, contains large quantities of sulphur, and has some mineral springs.

SEIR-i-MUTAKHERIN, or Latter Review, a work on the history of the British in India in the middle and close of the 18th century, by Scid Gholam Husain Khan, Calcutta 1789.

SEISTAN, Seistan, or Nimroz, between lat. $30^{\circ} 30'$ and 32° N., and long. $60^{\circ} 30'$ to 64° E., is the country on the S.W. corner of Afghanistan, between Bast and Girishk. Seistan proper is the basin of the Helmand. It is a flat country, with low hills here and there, and is surrounded, except on the north, by wide deserts. One-third of its surface is moving sand, and the other two-thirds are composed of compact sand and clay, covered with thickets of tamarisk and abundant pasture. The Helmand, which is by far the finest river between the Tigris and the Indus, flows through Seistan, and runs into the lake of Zurrah. The river banks are clothed with luxuriant vegetation, and the lake, which is about 90 miles long by 60 miles broad, is bordered by forests of reeds, beyond which there are pastures and tamarisk thickets. The country has long been occupied by savage tribes.

Ferrier (p. 425) says the population of Lansh, a district forming the extreme eastern and northern limit of Seistan, are of mixed Baluch, Afghan, Arab, Turk, Kakar, and Kurd descent, from families thrown there by the waves of revolution and intestine feuds; and the Zarangar or Dranghes, the Agraspes or the Arrachoti of the time of Alexander, cannot now be traced. In recent times, it has repeatedly changed hands between Persia and Afghanistan.

The only parts which still retain their fertility are those on the banks of the Helmand and Farrah-Rud, and of the lake which is formed by those rivers. This celebrated lake is termed by geographers the Sea or Darya of Zereng. In Persian books, it is said sometimes to be called the Sea of Loukh, and by the people of the country the Sea of Zoor or of Khaujek; in the neighbourhood, it is merely called the lake or the sea, and it is at least 150 miles round. The water is brackish and hardly drinkable. The edges of the lake, for a considerable breadth, are choked with long rushes and reeds; the shores also are overgrown with the same sort of vegetation, and, being liable to inundation, are full of miry places and pools of standing water. These marshes and thickets are frequented by herds of oxen, whose owners are men distinct from the other inhabitants of Seistan; they are said to be tall and stout, but black and ugly, with long faces and large black eyes; they go almost naked, and live in hovels of reeds. Besides their occupation of herdsmen, they fish and fowl on rafts among the rushes of the lake.—*Bellevu*.

SEJ-BAND. **HIND., PERS.** A cord and tassels of silk, for tying down the coverlet of a bed at the corners; they are of different kinds, Sej-band pinjri wala, Sej-band penchi wala, Sej-band sada wala. Its parts are the nati or stem, the tukhm or hollow bulb, and kalghi tassel and jhabba or jhallar fringe. The bulb is filled with kasturi, musk.

SEKHARA, Raja Sekhara, author of the comedy, *Viddha Salabhanjika*.

SEKONG, a prahu boat with long outriggers. It is made of one log of wood, very sharp fore and aft.

SELABAH, Selaib, or Selib, an Arab race who receive their name because on certain festivals, and particularly on occasions of marriage and circumcision, they fix at the door of the person to be married or circumcised, a wooden cross, dressed in red cloth, and adorned at the top with feathers, and people collect and dance around the cross. They dwell in tents. They are good sportsmen, and eat anything. They are said to believe in one God.

SELACHE MAXIMA is the great basking shark; attains 30 feet in length.

SELARI is a cloth half silk and half thread, with brilliant edging and borders of silk and gold thread, mostly in the form of sarees and do-pattas.

SELENITE. Hsien - taing - shih, CHIN. It occurs in the Chinese provinces of Shan-si, Pechili, and Kiang-si. The occurrence of selenite invariably indicates the presence of sodalite.

SELEUCIDÆ have been noticed under the heading Greeks of Asia; they got their name from the first of the dynasty, Seleucus surnamed Nicator, who ruled from B.C. 312 to 280, but the dynasty had other five of this name. The death of Alexander had occurred in the spring of the year B.C. 323. His colonies, and their institutions, manners, and language had a lasting action in Central Asia, the effects of which were felt for at least 500 years after his decease. But though he left his brother Aridaus and the posthumous child of Roshana or Roxana, called Alexander, neither of these succeeded him, for his commander and lieutenant, Seleucus surnamed Nicator, succeeded to the sovereignty of Afghanistan and the other Asiatic conquests.

In B.C. 315 Antigonus had assumed the regal title of king of Asia. In B.C. 305 Seleucus gained a great victory over Niconor, a lieutenant of Antigonus, and followed it up by seizing and adding to his own government the whole of Media, Hyrcania, Parthia, Bactria, and Aria, and all the countries as far as the Indus. In B.C. 303 he crossed that river to make war on Chandragupta, who during these contentions had expelled the Grecian garrisons from the Panjab, and had so recovered that country for the native sovereigns of India. Seleucus, being called to a final struggle with Antigonus, made a hasty peace with Chandragupta, ceding the Panjab as far as the Indus. According to Strabo, Arachotia was also ceded, but this seems doubtful. Cutchhi to the Bolan pass, with the valley of the Indus, may have been the region ceded. Seleucus drove Antigonus into Phrygia, where he was defeated and slain in B.C. 301.

Seleucus Nicator subsequently was assassinated in B.C. 280 by Ptolemy Ceraunus, from which date the whole of Asia to the Indus and Jaxartes

was under the Syrian king, Antiochus Soter, who from B.C. 280 to 261 reigned undisturbed over the same territory, and left it to his son, Antiochus Theos.

The expedition of Seleucus to the Panjab is related by Justin (lib. xv. c. 4), and by Pliny (Nat. Hist. lib. vi. c. 17). Seleucus Nicator is said to have penetrated to the mouth of the Ganges, and it had been sailed up by the Romans as far as Palibothra, before the time of Strabo. Armandi notices the fact that the elephants figured on the coins of Alexander and the Seleucids invariably exhibit the characteristics of the Indian type, whilst those on the Roman medals can at once be pronounced African, from the peculiarities of the convex forehead and expansive ears. He founded 35 cities in Greater and Lesser Asia, 16 of which he named Antioch, from Antiochus, his father; 9 Seleucia, from his own name; 6 Laodicea, from Laodice, his mother; 3 Apamea, from Apama, his first wife (of which the city of Kurnah was the chief); and 1 Stratonicea, from Stratonice, his last wife. According to Dean Prideaux, he was a great protector of the Jews, and the first who gave them settlements in those provinces of Asia which lie on this side of the river Euphrates. As they had been faithful and serviceable to him in his wars and in many other respects, he granted them great privileges in all the cities which he built.

Under his grandson, Afghanistan was taken from the Seleucids by the aboriginal chiefs, and soon after formed with Bactria an independent state, which existed during 150 years. After the death of Seleucus Philopater, Antiochus Epiphanes assumed the reins of power in the empire that included Armenia and Parthia. Alexander had been favourable to the Jews, but Antiochus Epiphanes the reverse. The first seven years of his reign were still endurable, but after that every confessor of Jehovah who could not be bribed or seduced over, was subjected to the most cruel forms of martyrdom. But relief came, in the uprising, in B.C. 167, of the valiant Mattathias; and B.C. 165 the temple was purified and the worship of God restored.

Antiochus Epiphanes died B.C. 164, in the year 143 of the era of the Seleucids. But there are two eras of the Seleucids, the one reckoned from the date of Alexander's death, A.A.C. 323; the second has its epoch 311 years and 4 months B.C., and is used in the Book of Maccabees. These Seleucidæ eras were also called Syro-Macedonian. The people of the Levant and the Jews adopted it, the Jews calling it Tariq-zul-karnain, and it is still in use amongst the Arabs.—*Prinsep; Elphinstone; As. Res. v. 285, ix. 100; History of the Panjab, i. p. 55; Prideaux's Connection of the Old and New Testament; Mignan's Travels, p. 4.*

SELJUK, a Turkoman race, who ruled in Iran A.D. 1037 to 1175; also in Kerman, A.D. 1041 to 1169, and in Rum or Anatolia, the capital of Iconium, A.D. 1077 to 1283. The Seljuk Turks were once masters of nearly all Asia Minor, of Syria, of Mesopotamia, Armenia, part of Persia and Western Turkestan; and their great sultans, Toghrul Beg, Alp Arslan, and Malik Shah, are among the most renowned conquerors that stand forth in oriental and in Byzantine history. Long settled in Persia, they adopted the colloquial dialect, and brought it with them on their expul-

sion by the Kharazmian kings, whose unremitting enmity forced vast hordes of them to fly from Persia, after they had been colonized there for many years.

The death of Mahmud, which occurred A.D. 1228, was followed by a period of anarchy, during which Togrul Beg, in the beginning of the 6th century of the Hijira, appeared in Khorasan, and in the short space of ten years wrested that kingdom from the house of Ghazni. It was ceded to Alp Arslan, and constituted a part of the Seljuk dominions until the extinction of that race, about 150 years posterior to Togrul Beg having assumed the title of emperor. By the middle of the 13th century, Ertogrul appeared on the battlefield in Asia Minor, and his more renowned son, Othman, is regarded as the founder of the Ottoman empire.

SEIUNG, Salong, or Selones, occupy the islands of the Mergui Archipelago, to the south of Tavoy. They are fishers for the sea slug, *Holothuria*; reside in their boats, which are good; are decently clad and intelligent; and are inclined to settle in villages and cultivate. They dig up the slug at the low water of spring-tides during the N.E. monsoon. They are supposed by some to be descendants of slaves from the Malay Peninsula.

SELYA, in the south of India, is a sheet or body covering in use amongst the poorer classes, cultivators and labourers, wrapped round their shoulders and body when employed in the fields. Its usual cost is about $1\frac{1}{4}$ to $1\frac{1}{2}$ rupees. In Dharwar one is always presented to the bridegroom by relations of the bride, together with a turband.

SEM, the ancestor of the Semitic race, dwelt in Arphaxad, the primeval land of the Kasdim or Chaldees, the frontier mountains of Armenia towards Assyria. Of the four branches of this Semitic race,—Elam, Assur, Lud, and Aram,—Helam or Elam, the Elymæi, formed the stem of the Babylonian empire, east of the Tigris, in Susiana (South Babylonia); Assur was the stem of the empire of Ninus on the Upper Tigris; Lud, the Lydi, were the original inhabitants of Asia Minor, Pontus, and Cappadocia, as far as the Halys, where the Lydians of history were seated. Aram, the original highlands S.W. of Armenia (Ar Minn), the country between the sources of the Euphrates and Tigris, Mesopotamia proper, is Aram-Nahrain, and Aram became the latest name for Syria. The Aram race branched into Uz or Huz, which is Nejd or North Arabia. It was to Ur of the Chaldees that Nahor went. His son Terah left it and went to Haran (Karra), a day's journey south of Edessa. According to Bunsen, the Semitic race invented theogony for other peoples, and especially for the Hellenes; and the Hebrews abandoned all mythological religion in the time of the patriarch Abraham.—*Bunsen*, iii., v. pp. 71, 365.

SEMANG is a Malay word, applied by the Muhamadans of Kedah, Perak, Tringanu, and Salangore to the pagan tribes of the interior. The Paya reside on the plains or borders of morasses; the Semang Bukit on the hills; the Semang Bakow frequent the sea-shore, and occasionally in the mangrove jungles; and the Semang Bila have been somewhat reclaimed from their savage habits. According to Mr. Earl, the Semang are a woolly-haired race, and a mere remnant of tribes which,

according to native tradition, occupied a considerable portion of the interior of the Peninsula at a comparatively recent period. At the present time the race is only known to exist on the mountain Jerai in the Kedah territory, a little to the north of Penang, in the neighbourhood of the mountain range which lies immediately opposite to the latter settlement, and in the uplands of Tringanu, on the east coast of the Peninsula. The Sakai and Allas tribes of Perak have hitherto been classed with the Semang, or woolly-haired race of the neighbourhood of Penang, have curly but not woolly hair, and they retain the Papuan custom of boring the septum of the nose, and also mark their skins with cicatrices, but their language and leading characteristics would show them to be wild tribes of the Malayan race. The Semang, however, who are identical in every particular with the Pangan of the interior of Tringanu, are Papuans in all their purity, with woolly and tufted hair in every respect similar to other unmixed tribes of the race. The Semang of Kedah have been described by Mr. Anderson in the fourth number of the *Journal of the Indian Archipelago*. Of the origin of the Semang race, the Malays possess no tradition. Certain it is, however, that the tribes of them which inhabited various parts on both sides of the Peninsula were much more numerous before many of the present Malayan colonies were founded by emigrants from Sumatra. A similar race of people are said to have formerly inhabited all the islands of the Archipelago, and nations and remnants of them, under the names Aheta, Aeta, Negrito, and Papua, occupy, or are still to be found on, many of them.

In the remoter portions of Asia, some of the black tribes possess all the traits of the Guinea Negro, but the Semang and the Mincopi of the Andamans appear, like the greater number of the Asianic Negro tribes, to have been partially modified by mixture with other races. This is certainly the case with the Semang, some of whom are Australo-Tamilian in appearance, while others differ little, save in their frizzled or spiral hair and dark complexion, from some of the adjacent Binua.

The average height of the adults of a party of Semang Bukit on the Ijan, a feeder of the Krian, was 4 feet 8 inches, the highest 4 feet 10 inches. Head small, ridged, that is, rising above the forehead in an obtuse wedge shape, the back rounded and markedly narrower than the zygomatic or middle zone; the face generally narrower and smaller than the Malay; eyebrows very prominent, standing out from the forehead and projecting over the ocular furrow, which extends across the face, the root of the nose sinking into it and forming a deep angle with the base of the superciliary ridge. The nose short and somewhat sharp at the point, and often turned up, but the *alæ* spreading. Eyes fine, middle-sized, and straight; iris large, piercing; conjunctive membrane yellow; the upper eyelashes, owing to the deep ocular depression or prominent ridges, are compressed or folded, the roots of the hair being hidden. The cheek-bones generally broad, but in some cases not remarkably prominent, save with reference to the narrow forehead. Mouth large or wide, but lips not thick or projecting; the lower part of the face oval or round, but not square. The deep depression at the eyes and

sinking in at the root of the nose give a very remarkable character to the head, compared with the Malay. The projecting brow is in a vertical line with the nose, mouth, and chin, and the upper jaw is not projecting or prognathous. The person is slender, the belly protuberant, owing to their animal life in the jungle and precarious food. This induces them to cram themselves whenever they can, and the skin of the abdomen thus becomes flaccid and expansible like that of an ape. The skin generally is fine and soft, although often disfigured by scurf; and the colour is a dark brown, but in some cases lighter and approaching to the Malay. The more exposed hordes are black. The Semang of Tringau are not of such a jet-black, glossy colour as the Kedah tribe. The hair is spiral, not woolly, and grows thickly on the head in tufts. They have thick moustaches, the growth being much stronger than in the Malay race. The head is neither Mongolian, nor Negro of the Guinea type; it is Papua-Tamilian. The expression of the face is mild, simple, and stupid. The voice is soft, low, nasal, and hollow or cerebral. A line of tattooing extends from the forehead to the cheek-bones. The adjacent Binua also tattoo. The practice is Indian, among the Konds, higher Abor tribes, etc., also Ultra-Indian and Asinaesian. The right ear is pierced, the orifice being large. The hair is cropped, save a ring or fringe round the forehead. The Semang of Perak resembles those of Kedah in personal appearance, but speak a different dialect. They possess the same curling black hair, are a little darker in colour, and have not the thick lips of an African.

The Semang eat elephants, rhinoceros, monkeys, and rats. They are very expert with the sum-pitan, a blow-pipe for projecting small darts, and poison the darts with ipoh, procured from the juices of various trees. It is seldom they suffer by beasts of prey, as they are extremely sharp-sighted, and as agile in ascending the trees as the monkeys. Elephants descend a hill usually at a slow pace, plucking the branches as they move along, and while the hind legs are lifted up, the Semang, cautiously approaching behind, drives a sharp-pointed bamboo or a piece of nibong, which has been previously well hardened in the fire and touched with poison, into the sole of the elephant's foot with all his force, which effectually lames the animal, and most commonly causes him to fall, when the whole party rush upon him with spears and sharp-pointed sticks, and soon despatch him. 'Badak tapa,' the recluse rhinoceros, towards the close of the rainy season, are said to bury themselves in the marsh, and upon the dry weather setting in, the mud becomes hard and crusted, and the rhinoceros cannot effect its escape without considerable difficulty and exertion. The Semang prepare themselves with large quantities of combustible materials, with which they quietly approach the animal, who is aroused from his reverie by an immense fire over him, which being kept well supplied by the Semang with fresh fuel, soon completes his destruction, and renders him in a fit state to make a meal of. The projecting horn on the snout is carefully preserved, being supposed to be possessed of medicinal properties, and highly prized by the Malays, to whom they barter it for their tobacco, etc.—*Lozan, Jour. Ind. Archipelago*, iv. p. 427; *Earl's Indian Archi-*

pelago; Newbold's British Settlement, ii. pp. 369, 370.

SEMAO, also called Savu, an island, 15 miles long, fronting the south-west end of Timor. The village of Oeassa is remarkable for its soap springs, one of which in the village rises like a small volcano. The water contains alkali and iodine. The natives of this Semaio Island have been named by Mr. Crawford the Negro-Malayan race. The people are like those of Timor, with frizzly or wavy hair, and a coppery-brown colour. Semaio Island has abundance of monkeys; one of them is the *Macacus cynomolgus*, or hare-lipped monkey, which is found all over the western islands of the Archipelago.—*Bikmore*, p. 116; *Wallace*, p. 188.

SEMECARPUS, a genus of plants of the S.E. of Asia, of the sub-order Anacardiæ of the order Anacardiaceæ. The genus *Semecarpus* comprises moderate-sized or large trees, and many furnish wood and other useful products. *S. acuminata*, *Wall.*, *Thw.*, is a middle-sized tree in the forests of the Ratnapura, Galle, and Ambagamowa districts of Ceylon at no great elevation, and it grows also in Chittagong. *S. cassuvium*, *Roxb.*, the *Cassuvium sylvestre* of Rumphius, is a tree of the Moluccas, where its tender leaves are eaten, and the acrid juice of its stem is employed to varnish shields, canoes, etc. *S. coriacea*, *Thw.*, is a moderate-sized tree of the Central Province of Ceylon, at an elevation of 5000 to 7000 feet. *S. Gardneri*, *Thw.* (*Badulla-gass*, *SINGH.*), is a moderate-sized tree, very common in the Central Province of Ceylon up to an elevation of 3000 feet. *S. humilis*, *Wall.*, occurs at Prome. *S. Moonii*, *Thw.*, is a moderate-sized tree of Ceylon, in the south of the island, at no great elevation. *S. nigro-viridis*, *Thw.*, is a moderate-sized tree in the Central Province of Ceylon, at an elevation of 2000 to 4000 feet. *S. odoratus*, *Wall.*, in the Royal Garden, Ceylon. *Thw.* *S. oblongifolia*, *Thw.*, called *Badulla-gass*, *SINGH.*, is a moderate-sized tree, common in the hot, drier parts of the island of Ceylon up to an elevation of 3000 feet. *S. obovata*, *Moon*, is a moderate-sized tree of Ceylon, growing at Calutara, and near Ratnapura. *S. obscura*, *Thw.*, a moderate-sized tree, growing at Deltotte, in the Central Province of Ceylon, at an elevation of 3000 feet. *S. parvifolia*, *Thw.* (*Hin-badulla-gass*, *SINGH.*), is a small-sized tree of Ceylon, in the Hinidum Corle, in the Galle district. *S. pubescens*, *Thw.*, is a small-sized tree of the Ratnapura district in Ceylon, at no great elevation. *S. subpeltata*, *Thw.* (*Maha-badulla-gass*, *SINGH.*), is a large tree of Ceylon, 30 to 40 feet high, in the Singhe-raja and other forests between Ratnapura and Galle.—*Roxb.*; *Thw.*; *Voigt*.

SEMECARPUS ANACARDIUM. *Linn.*

<i>A. latifolium</i> , <i>Lam.</i>	<i>A. officinarum</i> , <i>Gert.</i>
Beladur, . . . ARAB.	Badalaka, . . . SANSK.
Bhela, . . . BENG.	Kiri, Badulla, . . . SINGH.
Chai-bin, Khye, . . . BURM.	Shayang cotnay, . . . TAM.
Ghera mava, Gheru, CAN.	Bhaddatiki, . . . TEL.
Bhalawan, . . . DEKAT.	Bhaddatama, . . . "
Marking nut tree, . . . ENG.	Jidi chettu, . . . "
Bibua, . . . MAHJ.	Tummeda mamiidi, . . . "
Kampira, . . . MALEAL.	Bhallesh, . . . URIYA.
Arushkara, . . . SANSK.	

This small tree is common throughout British India, Ceylon, and Burma. As an ornamental tree, either in full foliage or before the fall of the leaf, it merits observation.

The acrid and vesicating oil found between the two laminæ of the pericarp of the marking nut, is collected and used as a preventive against the attacks of white ants, and by native practitioners in rheumatic and leprous affections. By boiling the whole nut not divested of its pericarp, an oil is obtained which acts as a blister. The preparation or collection either of the oil or acrid juice is liable to cause much irritation and inflammation of the hands, face, etc., of those engaged in the work. The nuts are black, shining, and flattened on both sides.

The acrid viscid oil which the nut contains, when used as an escharotic and counter-irritant, creates great pain, leaves often very intractable sores, and a mark for life. It is given in medicine in small doses, and is considered a stimulant and narcotic; is much used in the mesalih of elephants; given in large doses, it renders these animals furious; is considered good in venereal diseases, especially of women. The farina of the nut is very narcotic and irritating; people of a peculiar habit accidentally sleeping under the tree when in blossom, or even going near the flowers, are stupefied, and have their faces and limbs swollen, and the use of the bhalawan nut as a counter-irritant very frequently causes the whole body and face to swell with erythematous inflammation and much constitutional disturbance. The mature corolla and the receptacle are fleshy and sweetish sour, and are eaten roasted or boiled as a vegetable, and are deemed, along with cocoanut and chirouji, aphrodisiac. The bhalawan nut is worn on the arm as a charm in guinea-worm.

The acrid, black, resinous juice of the nut is employed by the natives externally to remove rheumatic pains, aches, and sprains, by rubbing a little over the affected part. It is also universally used for marking cotton cloth, whence its name of marking nut, the colour being improved and prevented from running by being mixed with lime-water. The green fruit, well pounded, makes good bird-lime; the fleshy receptacle below the nut is sometimes roasted and eaten, and the kernels are also occasionally eaten. A brown-coloured, tasteless gum exudes from the bark.—*Gen. Med. Top.* p. 127; *Beddome, Fl. Sylt.*

SEMECARPUS TRAVANCORICA. *Bedd.* Natu shengote, Tam. This is a very large tree, and, on account of its shining, dark-green foliage, exceedingly handsome; it is very common in the moist forests on the Tinnevely and Travancore mountains (elevation 1000 to 3000 feet); it abounds with the same caustic, black juice as *S. anacardium*; it flowers in August and September, and ripens its fruit in the cold season. Another tree of the Travancore Hills is *S. auriculata*, *Bedd.*—*Beddome, Fl. Sylt.*

SEMEN CONTRA. Sahibi, Hind. The undeveloped calices of *Artemisia Judaica*, a much-esteemed anthelmintic, especially in the round and long worm of children (*Lumbricus terrestris*). The action is heating and stimulant; dose 10 grs. to half a drachm finely powdered, in electuary with honey, or diffused through milk, and taken when the stomach is empty. In infusion or decoction the bitterness is quite disgusting; cathartics should either follow or accompany its use. The use of moxa, or of actual fire, to the surface of the body, is a favourite practice in all savage and

even half-civilised nations. In China, the down of the *Artemisia Chinensis* is set on fire, and the burning end applied directly to the part. In India, a red-hot gul or hookah pastille is usually employed. In Italy a small flame of hydrogen has been lately tried; and in Germany it is a common practice to place a particle of phosphorus on the skin, and then ignite it. The object in all is to effect counter-irritation, and the usual cases in which it is applied are chronic rheumatism, sciatica, neuralgia, deep-seated diseases of the bones, cartilages, or ligaments. In India, guls are used by the native empirics for almost all diseases, especially for enlargements of the spleen and liver.—*O'Sh.* p. 417.

SEMI RAMIS, a great Assyrian queen, wife of Ninus, who extended her conquests into Bactria, which is now represented by the modern Balkh. Semiramis marched on India B.C. 1230. She fitted out her armament in Bactria. She captured on the Kophen (the Kābil river, the Kubha of the Rig Veda) the city of the same name, but was opposed by Jarasandha of Bagadash, the Barhisatide. Semiramis crossed the Indus with a great strength, but Jarasandha, with a formidable force of archers and elephants, drove back the Assyrians in total disorder to the river, which they re-crossed with immense loss, Semiramis herself wounded; she concluded an armistice, and retreated into Bactria with a third of the army she had brought against India. Semiramis was said to have been changed into a dove; she was afterwards worshipped as a dove. The Roman Juno and Chaldean Dione were derived from one and the same original, this famed queen. Mr. Maurice thinks that Ninus and Semiramis are Vishnu and Siva. Ctesias and Isadore mention a statue and pillar of Semiramis at Baptna; but the sculptures of Semiramis and the inscription in the Syriac character have wholly disappeared. Baghistan is traditionally described as the pleasure grounds of the queen. The possibility has been surmised of another queen of this name in the 9th century A.C. She is known in India as Sani-Devi. Others point to Sami Rani, suppose it to be the title Zanorin of Calicut.—*Bunsen*, iv. 417; *Somner's Voyages*, p. 5.

SEMITIC LANGUAGES. Hebrew, Chaldee, Syriac, Arabic, Ethiopic, and Amharic are all but dialects of one original language, and constitute one family of speech, the Semitic. The following nations form a compact mass, and represent one physiologically and historically connected family, viz. the *Hebrews*, with the other tribes of *Canaan* or *Palestine*, inclusive of the *Phœnicians*, who spread their language, through their colonization, as that of the *Carthaginians*; the *Aramaic* tribes, or the historical nations of *Aram*, *Syria*, *Mesopotamia*, and *Babylonia*, speaking *Syrian* in the west, and the so-called *Chaldaic* in the east; finally, the *Arabians*, whose language is connected (through the *Himyaritic*) with the *Ethiopic*, the ancient (now the sacred) language of *Abyssinia*. The language spoken by Abraham when he left Mesopotamia closely resembled the Hebrew, and his own name was Semitic. Moreover, a dialect of the same tongue is still spoken by the *Kaldi* (*Chaldeans*) of *Kurdistan*, who, there is good reason to suppose, are the descendants of the ancient Assyrians. The common origin of their languages, is, however, the only connecting bond

which unites the widely-separated Semitic nations,—Hebrews, Babylonians, Phœnicians, Carthaginians, and Arabs. The Arab, the Hebrew, and the Palestine descendants of Terah were nomadic tribes. The Phœnician, the Syrian, and the people of Mesopotamia and Yemen formed civilised nationalities. In Semitic words the root remains always distinct and unmistakeable. In Aryan, on the contrary, it soon becomes altered and disguised. Hence Semitic dictionaries are mostly arranged according to the roots, a method which in Aryan languages would be most inconvenient, the root being often obscure, and in many cases doubtful. The *Amharic*, as also the Hebrew and Syriac, is derived from the Western Aramozi. Eichhorn adopted the term Semitic from Shem; the language is the oriental language of some author, the Syro-Arabian of Farrer, and the Arabic of Leibnitz.

The Semitic family of languages is divided by Professor Max Muller into three branches,—the Aramaic, the Hebraic, and the Arabic. The Aramaic occupies the north, including Syria, Mesopotamia, and part of the ancient kingdoms of Babylonia and Assyria. It is known to us chiefly in two dialects, the Syriac and Chaldee. The former name is given to the language which has been preserved to us in a translation of the Bible (the Peshito) ascribed to the 2d century, and in rich Christian literature dating from the fourth. It is still spoken, though in a very corrupt form, by the Nestorians of Kurdistan, near the lakes of Van and Urumia, and by some Christian tribes in Mesopotamia; and an attempt has been made by the American missionaries stationed at Urmia to restore this dialect to some grammatical correctness by publishing translations and a grammar of what they call the Neo-Syriac language. The name of Chaldee has been given to the language adopted by the Jews during the Babylonian captivity. Though the Jews always retained a knowledge of their sacred language, they soon began to adopt the dialect of their conquerors, not for conversation only, but also for literary composition. The book of Ezra contains fragments in Chaldee, contemporaneous with the cuneiform inscriptions of Darius and Xerxes, and several of the apocryphal books, though preserved to us in Greek only, were most likely composed originally in Chaldee, and not in Hebrew. The so-called Targums, again, or translations and paraphrases of the Old Testament, written during the centuries immediately preceding and following the Christian era, give us another specimen of the Aramaic, or the language of Babylonia, as transplanted to Palestine. This Aramaic was the dialect spoken by the Lord Jesus Christ and his disciples. The few authentic words preserved in the New Testament as spoken by our Lord in his own language, such as *Talitha kumi*, *Maranatha*, *Abba*, are not in Hebrew, but in the Chaldee or Aramaic, as then spoken by the Jews.

The second branch of the Semitic family is the *Hebraic*, with which is connected the Carthaginian, Phœnician, and Arabic. This third or Arabic branch sprang from the Arabian peninsula, where it is still spoken by a compact mass of aboriginal inhabitants. Its most ancient documents are the Himyaritic inscriptions. In very early times the Arabic branch was transplanted to Africa, where, south of Egypt and Nubia, on the coast opposite

Yemen, an ancient Semitic dialect has maintained itself to the present day. This is the Ethiopic or Abyssinian, or, as it is called by the people themselves, the *Gees* language. Though no longer spoken in its purity by the people of Habesh, it is still preserved in their sacred writings, translations of the Bible, and similar works, which date from the 3d and 4th centuries. The modern language of Abyssinia is called *Amharic*. These three branches, the Aramaic, the Hebraic, and Arabic are closely related to each other. Besides these, Egyptian, Babylonian, Assyrian, and the Berber dialects are now considered to have a Semitic character, by Champollion, Bunsen (Egyptian), Lassen, Eugene Burnouf, Dr. Hincks, Sir H. Rawlinson (Assyrian), and Professor F. Newman (Berber). Their language in one form was that of the Judaic portion of Christianity in the Old Testament, the Talmud, and the Syrian fathers. In another form it was that of the Koran or Muhammadanism. It was the language of the earliest alphabet of Phœnicia and the Punic colonies. It fell into the Aramaean, the Arabic, and the Ethiopic divisions. The Aramaean contained the Hebrew, the Samaritan, and the Syriac of Edessa, Palmyra, Damascus, and other important cities, and the people who spoke it were enterprising merchants, bold mariners, and monotheist priests.

The Arabic language, as written in the Koran, is the most developed and richest of the Semitic tongues. It is not now spoken in any part of Arabia, as there written. Probably it never was so, any more than the Latin, the English, the German, or Italian have ever been spoken as written in their respective bounds; and Burton quotes from the Arabic Grammar of Clodius that the dialectus Arabum vulgaris tantum differt ab erudita, quantum Isocrates dictio ab hodierna lingua Græca. Indeed, the Arabs themselves divide their spoken and even written language in two orders, the '*Kalam Wati*,' or vulgar tongue, sometimes employed in epistolary correspondence; and the '*Nahwi*,' or grammatical or classical language. Every man of education uses the former, and can use the latter. And the Koran is no more a model of Arabic (as it is often assumed to be) than Paradise Lost is of English. Inimitable, no man imitates them.

Terah, the father of Abraham, served other gods. But in the book of Job, it is God who can number the clouds in wisdom, who can stay the bottles of heaven (xxxviii. 37), who hath divided a water-course for the overflowing of waters, and a way for the lightning of thunder (25), who hath begotten the drops of dew (28); and in Proverbs (xxx. 4), who hath bound the waters in a garment, who hath established all the ends of the earth. Abraham, indeed, was inspired with a knowledge of the one true God, but his family had images, the teraphim which Rachel stole from her father Laban (Genesis xxxi. 17-35); and when Jacob fled from Esau into Padan-aram, and dreamed the dream at Bethel, he evidently had belief in many gods, for he endeavoured to make a bargain with the deity, saying, 'If God will be with me, and will keep me in this way that I go, and will give me bread to eat, and raiment to put on, so that I come again to my father's house in peace, then shall the Lord be my God' (Genesis xxviii. 20, 21). Such expressions show a belief that there were other gods,

one of whom might be Jacob's own protector. The same principle is invoked in the commandment later proclaimed by Moses to have none other gods but the Lord God; and even more lately Joshua has to urge the people to put away strange gods (xxiv. 15-23), to put away the gods which their fathers served on the other side of the flood. 'Choose ye this day,' he says, 'whom ye will serve; whether the gods which your fathers served on the other side of the flood, or the gods of the Amorites, amongst whom ye dwell: but as for me and my house, we will serve the Lord.' Later still, the Psalmist says (lxxxvi. 8), 'Amongst the gods there is none like unto thee, O Lord; neither are there any works like unto thy works.'

The early Arab religion was Sabæaniam, a worship of the heavenly bodies, mixed with idolatry; but with Mahomed commenced the Arab conquests, the creed, science, and literature. At present the Arabic alphabet is in use amongst the Turks, Persians, Malays, some of the people of India and Africa. It was, however, of Syrian origin. The Arab family is Muhammadan, except the Christian Arabs of Malta.—*Max Muller, Sanskrit Literature; Langues Semitiques, par Ernest Renan, 1858; Peuples Semitiques, par E. Renan, 1859; Wellsted's Tr.; Walk through Algiers; Fontanier; Latham; Bunsen's Egypt; Burton's Mecca, p. 41; Pelly; Rawlinson, i. p. 36; Sale's Koran, p. 11; Lubbock's Origin of Civil.; Muller's Lectures, p. 263; Mignan's Travels; Die Abstammung der Chaldeer, Prof. Eb. Schrader; Semitische Culturentstehung, Dr. A. von Kremer; Della Sida Primitiva, Prof. Ignazio Guidi.*

SEMITIC RACES. The subject of the primeval country of the Semitic races and of their languages has engaged the pens of Bunsen, Professor Ignazio Guidi, Dr. Fritz Hommel, Dr. A. von Kremer, Professor Max Muller, M. E. Renan, Professor Sayce, Professor Eberhard Schrader, Professor Spiegel. The Semitic populations in Asia are the Arabians, Syrians, Samaritans, with about ten millions in British India; in Africa, Abyssinians of Tigre and Amhara, Agow, Falasha, Gafat. During the last 3000 years, conquest and commerce, but chiefly the former, has greatly diffused this race. In various inroads, the Arab Semites have gone northward and eastward into Persia, India, and China, and smaller parties are to be found located in Burma, in Malaya, the Archipelago, and Polynesia. Many of them have likewise conquered and migrated westerly along the north of Africa and into Europe, where, as in Spain, they ruled for 700 years, but were again driven back into Africa. They are now found in Africa, as fetish-worshippers, Christians, Muhammadans, and Jews.

Abyssinia is Christian, being acquainted with the chief truths of the Bible, but all much blended with merely human notions. The latest polemics there have been as to the two or three births of Christ,—born of the Father before all worlds, made man, and in the baptism at Jordan receiving the Holy Spirit. As regards the two natures of Christ, they are extreme monophysists. Monogamy is their church law, but concubinage is universal.

The *Adal*, also said to be a Semitic race, are tribes on the west of the Red Sea, who call themselves Afer, but by the Arabs they are called Danakil, from their chief tribe Ad Alli. Dr.

Krapf is of opinion that this Afer is the Ophir of Scripture. He thinks that Ophir, in Job xxviii. 16, simply means gold dust.

The *Galla* race, inhabiting Shoa, and one of the finest in Africa, are strong, well-limbed, and of a dark-brown colour, living in a beautiful country, extending from lat. 3° S. to 8° N., with a climate not surpassed by that of Italy or Greece. Speaking a language as soft and musical as pure Tuscan, cultivating the soil, and rearing cattle. They are from 6 to 8 millions in numbers. Their religion, like that of all African savages, is fetish. They acknowledge a supreme being, whom they call heaven (Mulungu), and have a notion of a future state. There seem to be three natures or attributes in their deity,—Wak or Waka, Supreme; Ogli, a masculine, and Ateti, a feminine embodiment. They have two holy days,—Saturday, which they call Saubatta kenna, or little Sabbath; and Sunday, Saubatta gudda, or greater Sabbath.

The *Kabila*, south of Algiers, are Berbers, the old Numidians, and differ in language, form, and habit of mind from the Arabs of the plains, being matter of fact in mind, and but little gifted with the glowing imagination of the Arab. The unsubdued portion dwell in the mountainous tract, with bare precipitous peaks, to the south of the Little Atlas and of Algiers. They are spare but robust; and of smaller stature than the nomade, for the Kabila are dwellers in houses or huts (hence their name), are laborious tillers of the soil, and handicraftsmen clever in winning metals from their hills, and even in forging arms. They are wonderful horsemen, and terrible in a foray as in the days of Sallust, and are always at war with the Arabs. The slopes and valleys of their mountain country are all rich, cultivated lands, covered with olive trees and corn-fields, and the rocks are said to contain minerals. Their number is about 700,000, possessing some millions of acres of the very best land of Africa, watered by three rivers, and teeming with rich harvests. They approach to within 120 miles of Algiers, which they separate from Constantine. They are a federal republic, and elect their own chiefs. They are the old Quinguentes, who gave so much trouble to the Romans, who tried the soldiery of Maximinian, and sixty years afterwards again revolted. Tu ferocissimos Mauritanie populos, inaccessis montium jugisset, naturali munitione fidentes, expugnasti, recepisti, transultisti. By Maximinian's system of transultis these five nations were reduced to four. The Kabile have feuds amongst themselves.

The *Tonareng* is a nomade race, dwelling in the Great Desert, very fair, with long hair, aquiline noses, high foreheads, and thin lips. They say prayers in Arabic, and speak a Semitic tongue. Their arms consist of a long lance with a broad head, javelins 6 or 7 feet long, jagged hooks at the pointed end, a round buckler (*Darega*) of buffalo or elephant hide from Soudan, a poniard, and a broad-bladed scimitar.

If we proceed west to *Morocco*, we find its entire population, computed at 8 millions, to consist of—

Berber,	2,300,000	Jews,	340,000
Shellok,	1,450,000	Negro and Abd.,	120,000
Moor,	3,550,000	Christian,	300
Arab,	740,000	Renegades,	200

The *Berber* and *Shellok* are untamed, fighting

tribes dwelling in the mountains. When possible, rovers of the sea, claiming fanciful origins, but impatient of any subjection. They are the same race whom the French call Kabyle and Zouave.

The *Moors* are lowlanders, traders, and dwellers in cities. They are little idle men, who grow fat from indolence; avaricious, perfidious, cowardly, cringing, and insolent. They are said to be descendants of the Carthaginians.

The *Arabs* of Morocco are the Moors of Spain, the Saracens of France, tall, graceful sons of the Arabian desert, courteous, brave, hospitable, and confiding, descendants of the conquerors who in the first ages of the Hijira propagated the religion of Mahomed, crossed the Straits of Gibraltar, destroyed the Gothic chivalry, reigned in Spain for 700 years, invaded France, devastated Italy, and pillaged the suburbs of imperial Rome. When the last Arab king submitted to Ferdinand and Isabella, and the Moorish palaces of Grenada were surrendered to the Christians, the old conquerors went back to Africa and resumed their nomade life. In Tripoli, the Arab has monopolized the country. In Tunis, the native re-appears in a smaller proportion, and in Morocco he is very scarce.

The *Jews* of Morocco are partly urban, partly mountaineers, the latter dating their arrival prior to the nativity. They live in friendship with the Berber, but at hostility with another strange race, who declare themselves descendants of those Philistines whom Joshua drove out of Syria, and who found a refuge in this remote portion of Africa.

The *Riff*, dwellers of Kalhiya (Cape Tres Forcas), were formerly much engaged in piratical expeditions, which were put down by Muli Abdur Rahman in 1817. Er Rif means shore or bank (Ripa, Port.), and so long ago as Leo the African was used to designate all the sea-coast between Tetuan and Mililla. It is the country of the chain of the Atlas, and is about 200 to 300 miles long. The word is synonymous with the Arabic Sahila. Thus the inhabitants of the Algerine coast are called Sahali (plural Suahili); those of Morocco Rifi.

The *Arabs* are spread from Syria to the Indian Ocean, and eastwards into the Archipelago. In Arabia, they are chiefly in tribes, and those who occupy the country around Jerusalem are the Anazeh, Shanmar, Mowali, and Salhan.

The *Assir* tribe occupy between Mecca and Medina. They have six Kabyla,—Bin-ul-Asmar, Bin-ul-Akhmar, Charaan, Assir, Roufeida, and Abida—and muster about 44,500 fighting men.

The *Cha'ab Arabs* occupy the lower part of Mesopotamia. They are a tall, martial race, strong-limbed and muscular, active and healthy.

It is necessary, when considering the Arabs, to distinguish between a series of grades towards civilisation, in which they may at present be found.

The *Bedouin* is wandering, pastoral, tent-loving, disinclined to trade, yet avaricious, and willing to sell his ghi, his mutton, or his horse, and always found in wide and open wastes, unpressed upon by adequate exterior power. Yet even the Bedouin bends to circumstances. He accepts the region allotted for his pasture-grounds. Plunder has its laws, and vengeance its chivalry. If he will not trade, he still has wants, and suffers the presence of a Jew or Salebah, as the Afghan

suffers that of the Hindu. A little higher in the scale, as with the Cha'ab, is the original wandering pastoral Arab, in a district where he is pressed upon from without, and where boundless plunder and roaming are restrained by exterior force. The Arab then partly turns to agriculture, and for this he must in some degree settle. Society harmonizes to this level. Trade is possible; corn is sold; the abba cloaks are woven and exported; dates are planted. Huts of reeds replace tents; and one sees in their feeble efforts at reed-ornamentation, and in their rough twisting of their reed-rope for their bunds, the possible germ of some architectural efforts. Yet higher in the scale is the Arab flourishing as an experienced and wealthy merchant in a town, or administering a well-ordered and comfortable rural district. Passing among these people, society is seen in its transitional state towards civilisation.

The present *Arabians*, according to their own historians, are sprung from two stocks,—Kahtan, the same with Joktan or Yoktan of the Bible, the son of Eber, whose descendants occupy the south; and Adnan, descended in a direct line from Ishmael, the son of Abraham and Hagar, who occupy the north. Yoktan, according to Ch. Bunsen, was one of the two sons of Nimrud, and was the chief of the first Arabian emigration that proceeded southwards. Tradition points to the mountains of Armenia as the birthplace of the Arab and Canaanitish races. It is supposed that they travelled along the banks of the Tigris into Mesopotamia, from which a portion of them commenced a great migration southwards, the result of which was the foundation of the primeval kingdoms of Southern Arabia, the kingdoms of the Adites in Yemen, who believe that they came from the sacred North, and once lived in a glorious garden of the earth which they are to restore.

It has not been unusual to describe the Semites as essentially monotheistic, but their tribes and nations were worshippers of El, Elohim, Jehovah, Sabnoth, Moloch, Nisroch, Rimmon, Nebo, Dagon, Ashtaroth, Baal or Baal-peor, Baal-zebul, Chemosh, Milcom, Adra-Melek, Anna-Melek, Nibhaz, Tartak, Ashima, Nergal, Succoth-benoth, the sun, the moon, the planets, and all the host of heaven. Amongst the nomade branch, there seems early to have been a monotheistic belief, but the great bulk of the Hebrew nation continued to worship idols of their own manufacture; and the prophet, when ordered by inspiration to proceed to the wilderness of Damascus, was told that there were only in Israel 7000 people who believed in the one God. Some branches of the Semitic race, ignorant of science theocratic, have devoted themselves to the expression of religious instincts and intuitions,—in one word, to the establishment of monotheism. The doctrine of a future life and retribution, which in one form or other was inwoven with the religious ideas of Egypt, appears to have been unknown to the Semitic nations. The Assyrians were Semites. The names of the Assyrian gods, as Baal or Belus (the supreme deity amongst many of the Semitic races), Nisroch and Mylitta (known by a nearly similar name to the Arabians), of members of the family of the king, such as Adra-Melek (son of Sennacherib), and of many of the principal officers of state mentioned in Scripture, such as Rabсарis, the chief of the eunuchs, and Rabshakeb, the chief of the cup-bearers, are

purely Semitic. Phœnicians, Carthaginians, Syrians, Assyrians have presented forms of worship as gross and sensuous as those of Greece or India. Until the return of the Jews from Babylon, the people generally were ever prone to fall into a worship of gods many and lords many, like the nations around them, which the few thinking minds amongst them could not prevent. Their entire history shows that the people fell into the lower forms of thought and speech, their very worship of Jehovah became polytheistic, even fetish in its nature, and it was in protest against this that their lawgivers, prophets, and psalmists spoke; and when Mahomed appeared with a monotheism the most rigorous and exclusive that the world had witnessed, he was one of a Semitic race who were polytheists and fetish-worshippers. The Jews' belief had as a basis, not monotheism, the belief in a deity numerically one, but in a living God, the Father and the King of men. But when Mahomed proclaimed that the Lord was One, he did so as reviving the faith of Abraham, who derived his knowledge through a special revelation of God.—*E. H. Plumptre, Review of Max Muller's Science of Religion; Contemporary Review*, January 1868.

SEMNAI, a name by which Clemens of Alexandria designates the Buddhist nuns of his day. He mentions Buddhist pyramids, and the habit of depositing bones in them; their practice of foretelling events; of their continence, and of the Buddhist Semnai or holy virgins; and he names their god Bouta. Porphyry tells us that the Brahmins were born to their dignity, while the Semnai were elected. Cyril of Alexandria states that there were Samans in Bactria.

SEMOLINO. *It.* Semoule, Gruau, *Fr.*; Soojie, *Hind.* The fine, hard, inner part of wheat, rounded by attrition in the mill-stones, is used exclusively in India for making loaf-bread. It is imported into England from Italy. The best semolino is obtained from the wheat of the southern parts of Europe. In France the name of semolino is given to the large hard grains of wheat retained in the bolting-machine after the finer parts have been pressed through its meshes. Semola, *It.*, is bran, but often employed by grocers and other vendors to designate semolino. See Farina; Soojie.

SEN, in Bengal, a patronymic of persons of the medical caste, as Ram Komal Sen, author of a Bengali and English dictionary.

SENA, a dynasty of kings who ruled in Eastern and Deltaic Bengal, and afterward in all Bengal, from A.D. 986 to 1442. They were of the Hindu faith. Adisur was the founder of the Sen dynasty; he brought from Kanouj five Sagnic Brahmins, of the tribes or gotra Sanhila, Kashyapa, Vatsa, Savarna, and Bharadwaja; also five Sudra families, Ghose, Bhose, Dutt, Guha, and Mittra, accompanied them, and these take the position of Kulin Kayastha. In the reign of Bullal Sen, about 284 years before the Muhammadan invasion, all these Kulin Brahmins and Kulin Sudras had greatly increased, and Bullal Sen ennobled these Brahmins by giving to them the title of Kulin, and though degenerated in learning they arrogated to themselves a position above all the Sapta-sali or prior Brahmins. The Kulin Brahmins subsequently consented to marry the daughters of the aboriginal Brahmins, who

now eagerly seek alliances with the Kulin, and the Kulin have taken advantage of this, and have established a scale of premiums for condescending to accept a daughter of an inferior. They marry gold. Of the Kayaastha who came from Kanouj, Bhose, Ghose, and Mittra were ennobled by Bullal Sen into Kulin Kayastha. Das, Day, Dutt, Guha, Kar, Paulit, Sen, and Sing hold a second rank. Kulin Brahman women are married with difficulty, and generally to aged men. In A.D. 1868, there were 11 Kulins in Hoogly and 1 in Bardwan, each of whom had contracted 50 to 80 marriages; 24 in Hoogly and 12 in Bardwan, who had contracted from 20 to 50 marriages; and 48 in Hoogly and 20 in Bardwan, who had contracted between 10 and 20 marriages. Kulinism is thus a great polygamic institution, and a few women have become prostitutes. In A.D. 1867, the abolition of this polygamy was contemplated, and will doubtless some day be carried out.—*Calcutta Review*, May 1868.

SENA, the barber disciple of Ramanand, founder of a separate sect; the Sena Panthi, an extinct Hindu sect of Vaishnavas. Sena was barber of the raja of Bandhagurh.—*As. Res.* xvi. p. 85.

SENA. *SANSK.* An army. Sena-pati and Sena-dhipati, general commanding, lord of the army.

SENA, a town in the mountains in the S.W. part of Arabia. After the expulsion of the Turks in A.D. 1630, the whole of Yemen came under the government of the Imams of Sena; but at the time of Carsten Niebuhr's visit to Sena in 1763, the native Arab tribes of the provinces of Aden, Abu Areesh, Taz, and others had thrown off allegiance to the Imams. In 1799, when the British Government took measures to oppose the expected invasion of India by the French, and to revive the lost trade of the Red Sea, Dr. Pringle obtained facilities for trade, but Sir Home Popham subsequently lost these. At the beginning of the 19th century, Imam Ali Mansur suffered severely at the hands of the Wahabee sect, who overran and wrested from him some of the best districts of his dominions. In 1816, Muhammad Ali Pasha, after he destroyed the Wahabee power, restored the districts to Imam Ali. In 1817, in consequence of a dispute in which an Arab had been temporarily detained at the factory at Mocha, the Residency was attacked and plundered, and a British officer was dragged before the Governor, by whom he was subjected to the most brutal insults. In 1840, a commercial treaty was concluded with the Governor of Mocha by Captain Moresby, similar to that concluded in the same year with the chief of Zaila. For some years the country of Sena fell into absolute anarchy. In 1832, Mocha and all the sea-coast fell under the suzerainty of the Turks. It was afterwards recovered for a time, but again finally lost in 1848. Ali Mansur, who succeeded his father as Imam of Sena in 1834, was deposed three years after. During the internal revolutions in Sena and the desultory warfare with the Turks, the Imams repeatedly endeavoured to enlist the aid and advice of the British Government in their cause. A rigid abstinence, however, was maintained from all interference in their affairs.—*Playfair's Yemen; Papers in the Foreign Office; Treaties, Engagements, and Summuks.*

SENAN, a Sabæan physician, astronomer, and mathematician of the 10th century. His full name was Abu Said Senan.

SEND'HI. HIND. The tuft of hair or scalp-lock which Hindus leave at the top of their head. In Tamil it is called kurmi, and in Telugu, juttu.

SENDOBAD. This book was, like the Pancha Tantra, originally written in Sanskrit, from which it was translated into Persian, and thence into Arabic. From the Arabic it passed into Syriac, and from the latter arose a Greek version under the title of Syntipas. A Hebrew version, supposed to have been made from the Arabic, was translated into Latin by Dam Jehans, a monk, at the end of the 12th or beginning of the 13th century, and was named *Historia Septem Sapientum Romæ*. Of this last, various translations appeared in English, French, and other modern languages, under the titles of 'The Seven Wise Masters,' 'Dolopathos,' 'Eurastus,' &c.—*Des Long-champs Essai sur les Fables Indiennes*.

SENGAR-CHAORI. HIND. The nuptial hall, from the purpose to which it is applied. Sengar means ornament; Chaori is the term always applied to the place of nuptials.—*Tod's Rajasthan*, ii. p. 709.

SENG-MUNG, among the Abor an interchange of meat as food; on any engagement so cemented their action is inviolate.

SENJERO, a race of Eastern Central Africa. Like the old Romans, they elect their king by the flight of birds, and choose the individual on whom a vulture alights. They sell their women into slavery, and sacrifice their first-born to secure a propitious harvest.—*Krapf*.

SENNA, *Cassia senna*.

Sanaï, Sana, . . . ARAB.	Sunna-muki, GUJ., HIND.
Sana-pat, . . . BENG.	Senne, . . . PORT.
Pwa-goringi-yet, . . . BERM.	Aleksandrskii, . . . RUS.
Sennes blade, DAN., SW.	Butalapotaka, . . . SANSK.
Zene-bladen, . . . DUT.	Sen, . . . SP.
Sene, . . . FR.	Nilaverei, . . . TAM.
Sennablater, . . . GER.	Nayla tungadu, . . . TEL.
Senespfianze, . . . "	Nila ponia, . . . "

The leaves of *Cassia elongata*, *C. acutifolia*, *C. lanceolata*, and *C. obovata* all agree in certain properties,—the odour of the leaves is heavy and peculiar, taste bitter, nauseous, and glutinous, powder yellowish-green, and all yield the purgative senna of commerce. At least eight varieties of senna leaf were known in commerce in Europe.—Senna palthe, Senna of Sennaar or Alexandria, of Tripoli, of Aleppo, of Mocha, of Senegambia, false or Arguel, and the Tinnevely. The Senna palthe is known to have contained *Cynanchum oleosifolium*, and in this variety of the drug the poisonous leaves of *Coriaria myrtifolia* were found by M. Dublanc. The Mocha senna is common in all the bazars of India. The Tinnevely drug is in species identical with the Mocha. Tinnevelly senna is that most esteemed by the profession, and is known by the size of the leaflets, which are much larger than those of any other variety; they are also less brittle and thinner, and are generally found in a very perfect state; while the other varieties, especially the Alexandrian, are more or less broken. Senna grown in the southern provinces of the Madras Presidency is highly esteemed in Britain, and is preferred by many to all other sorts, as being both cheaper and purer. Senna raised at Dapuri from Tinnevely seed, has been found equal to the best Arabian senna. The

picking of senna leaves in Gujerat of sowings in August, is made in September; and Dr. Burn states that the virtues of the leaf depend greatly on the time of the picking.

SENNACHERIB, king of Assyria, son of Sargon, ruled in Nineveh. He was coeval with the latter years of Hezekiah, and contemporary with Nabonassar. Sennacherib reigned B.C. 705, and was slain by his two sons B.C. 681. His chief wars were with Babylon, with the mountain races north of Elam, against the Chaldeans of Elam, with Hezekiah king of Judah, Lulia king of Tyre, overrunning all Palestine. He was worshipping in a temple when assassinated by his two sons, Adra-Melek and Sharezer.

SENSITIVE PLANTS. The best known is *Mimosa pudica*. A knock upon the ground at a short distance from the plant is sufficient to produce an influence on its leaves. Bichloride of mercury, sulphuric acid, caustic potash, &c., applied to the knots of the joints set the leaves in motion. The removal of the plant to a higher temperature, as well as exposing it to a lower temperature or a draught of cold air, produce the same result. They are destroyed by the application of chloroform and other anæsthetic agents. Its leaflets rapidly fold together and droop when touched, and its leaf-stalk, to its base, droops downwards. On the approach of evening, the foliage of this plant assumes the same appearance. Besides *M. pudica*, the *M. sensitiva*, *M. viva*, *M. casta*, *M. asperata*, *M. quadrivalvis*, *M. Pernambuco*, *M. pigra*, *M. humilis*, *M. peltata*, *M. dormiens*, possess the same property, though not in so remarkable a degree. Species of other genera of the Leguminosæ exhibiting these movements are *Smithia sensitiva*, *Aschynomene Indica*, *Æ. pumila*, and *Desmanthus stolonifer*. The locust tree, when its branches are roughly shaken, closes up its leaves, and the same has been observed of *Gleditschia triacantha*. *Oxalis sensitiva*, called by De Candolle, on account of its sensitive properties, *Biophytum*, has long been known to possess this property. *Oxalis stricta*, if hit smartly on a warm day, will contract its leaves and assume a position as in the ordinary sleep of the leaves of these plants; and the same movements occur in *O. acetosella*, *O. corniculata*, and many other species. The movements in these plants consist in the folding up of their leaves, so that the two halves of the leaf approach each other by their upper surface. The midrib is also slightly bent, so that its inferior surface presents a convexity; and the petioles of the leaflets bend downwards, so that the leaf, when irritated, becomes dependent. *Averrhoa bilimbi* and *A. carambola* fold their leaves on the application of a stimulus. The leaves of *Dioncæa muscipula* or Venus fly-trap contract upon insects that may happen to alight upon their surface. The surface of their leaves is covered with long hairs, which secrete a viscous matter. When any insect settles upon the leaf, it is entangled with the viscous secretions, and before it has time to escape, the hairs exhibit a considerable degree of irritability, and, curving round, pin the animal down on the surface of the leaf. Other instances of vegetable irritability occur in the *Berberis vulgaris*, *Mimulus*, and *Styloidium*. In the *Desmodium gyrans*, one of the Fabaceæ called the telegraph plant, a native of the East Indies, the large terminal leaflet when

exposed to the bright light of the sun, forms a direct and continuous line with its leaf-stock, but is manifestly depressed if placed in the shade for a few minutes. Its position varies with the increase or decrease of light during the day.—*Bulletins de l'Academie Royale de Bruxelles*, vi. in *Eng. Cyc.*; *Chambers' Journal*, 1863.

SEO-JI, in the Bhaka tongue, is a title of Siva; the Ji is merely an adjunct of respect.

SEONI, in lat. 22° 5' 30" N., and long. 79° 35' E., a town in the Central Provinces of British India which gives its name to a revenue district. The beauty of its scenery, the fertility of its valleys, the elevation of its plateau, its salubrity and moderate temperature, make it attractive. The plateaux of Seoni and Lakhnadon have a varying height of from 1800 to 2200 feet. They are well cultivated, clear of jungle, and their temperature is always moderate. The most numerous of the aboriginal tribes are the Gond (148,183 in 1872), the remainder consisting of Kurku, Bharia; Dher or Mhar (40,207), Ponwar (30,305), Ahir or Gauli (26,907), Mali or Maral (24,873), and other cultivating or inferior castes. The Ponwar supply the most industrious and enterprising agriculturists. Their appearance in Seoni dates from the middle of the 18th century, their first settlements being about Sangarhi and Partabgarh, whence they ultimately spread into Katangi. The pastoral Ahir or Gauli occupy the fine grazing ground to be found in most parts of the district, and the rocky strip of Dongartal in the south-west.—*Imp. Gaz.*

SEORI or Siviri, a race in Ghazipur, Gorakhpur, Behar, Benares, and Mirzapore, whom Buchanan thinks distinct from the Kol and the Cheru. The Cheru aborigines in Ghazipur, a part of Gorakhpur, the southern part of Benares and Mirzapore, and of Behar, are sometimes said to be a branch of the Bhar, but Buchanan considers them distinct.

SEPIADÆ, a family of mollusca of the class Cephalopoda, order Dibranchiata, and section Decapoda, including the genera belemnosis, belemnites, helicerus, sepia or cuttle-fish, and spirulirostra. Belemnosis, belemnites, and spirulirostra are fossil, and sepia has 10 fossil and 30 living species, of which the type is the common cuttle-fish, whose bone is so often thrown up by the waves on the beach. The ink (nigra succus loliginis), common to this and other species of cephalopods, is not only ejected as a defence to colour the water in order to favour the escape of the animal, as was well known to the ancients (Oppian, *Halient*, iii.; Pliny's *Nat. Hist.* ix. p. 29), but as a direct means of annoyance. The fluid was used by the ancients as ink, as shown in the lines in the graphic description of the idler by Persius (*Sat.* iii. lin. 10, et seq.). The flesh of the naked cephalopods was rather esteemed of old, as it is, indeed, now in Italy and eastern countries. Mr. F. D. Bennett states that the Fe, or cuttle-fish, is considered a luxury by all classes of the Sandwich islanders, and that when fresh and well cooked it is an excellent food, and in consistence and flavour not unlike the flesh of a lobster's claw. Its shell, called cuttle-fish bone, is sometimes 1½ feet long; it is used for rubbing down paint.—*Bennett, Whaling Voyage*, Lond. 1840; *Woodward*.

SEPOY. ANGLO-HIND. Sipahi, PERS. A native soldier of the Indian army.

SEPSIDÆ, the family of sand lizards, one of

them, *Sphenocephalus tridactylus*, *Blyth*, occurs in Afghanistan.

SEPTACANTHIS WALKERI, one of the Acanthaceæ (quere, Nillhoo of Ceylon), perfumes by its fragrance the jungles, especially around Needuwattum and paths leading to Gadalur.

SEPTARIA. Shih-pieh, CHIN. Nodular stony concretions used in Chinese medicine.

SEQUIN, a Venetian coin known in the S. of India as Shanar kassu. The figure of the Pope, with a tall crozier, is supposed to be a Shanar toddy-drawer about to ascend a cocoanut tree.

SEQUIA GIGANTEA. *Decaisne*. The Wellingtonia gigantea, *Lindley*. A huge tree of California, some of which measured 420 to 470 feet, average height 275 feet. It might be introduced into India. Sequoia sempervirens, discovered by Menzies in 1796, in California, is nearly as tall as the Wellingtonia. One tree, known as the Giant of the Forest, was 270 feet high, and 55 feet in circumference at 6 feet from the ground. This species is interesting as being the nearest living representative of a sequoia which, during the tertiary period, enjoyed a very wide distribution in Europe, where no congener is now indigenous.

SER. HIND. An Indian weight of varying quantities from 25 tolas to 2 lbs. 2 oz.

SERAI. HIND. A lodge for travellers.

SERAJGANJ, Naraingarj, and other N.E. districts of Bengal, are the chief seats producing the jute fibre. The yield is 2000 to 4000 lbs. of fibre, and 1000 to 1200 lbs. of seed per acre. The common or desi sort yields only 600 to 1000 lbs. of fibre, but an increase of seed, viz. 1500 to 1600 lbs. Jute is sown broadcast, 22 to 28 lbs. of seed per acre. In the N.E. districts it is planted in February and March, and cut in June and July; the common kind in July and August, and cut in August and September.

SERAMPUR, a town in the Hoogly district of Bengal, lat. 22° 46' N., long. 88° 24' E., 13 miles from Calcutta, on the right bank of the river Hoogly. The town gives its name to the Serampur subdivision of the Hoogly. It is famed as the residence of a body of Protestant Baptist missionaries from England who made this the centre of their Christianizing efforts. Amongst them were the celebrated William Carey, Ward, and Marshman. Carey set up his missionary press there, and printed the Bible in 40 different Indian tongues. He founded here a college, which has fallen into decay. Until the middle of the 19th century, Serampur and Negapatnam belonged to the Danes. The mission still flourishes, and its founders have established a church, school, college, and noble library in connection with it; there is also a dispensary here.—*Imp. Gaz.*

SEREGIUS, a Manichæan who appeared in the character of Christ and Paraclete.—*As. Res.* ix. pp. 217, 218.

SERES, a term which Horace and the ancients use, seems to have been strictly applicable to some nation in the west of China. The western term China is not traceable, but many authors have surmised that it was given to the country when the Tsin dynasty carried their arms to the west. Whatever may have been its origin, the term China (Cheena) was that early given by the people of the N.W. of India to the race whom Europe now calls the Chinese. There are two mentions of the Seres which may be much earlier,

One is in a passage ascribed to Ctesias, which speaks of the Seres as a people of portentous stature and longevity.—*Yule, Cathay*, i. p. 39.

SERIATOPORA SUBULATA, a coral reef-building polypifer at the Mauritius.

SERINGAPATAM, in lat. 12° 25' 33" N., and long. 76° 43' 8" E., in Mysore, is built on an island in the Cauvery river, 3 miles long and 1 mile broad. The mean height of the station is 2558 feet; the level of the Cauvery is 2321 feet. The fort is placed at the upper end of the island. It is a large irregular fortification, protected on two sides by the river; the complete Hindu name is Sri-ranga-patana. One canal is carried across the western branch of the river Cauvery 40 feet above its level. The existing fortifications were almost entirely constructed by Tipu. In 1791, Lord Cornwallis, the Governor-General, commanding in person, advanced up to the walls, but was compelled to retire through want of provisions. In the following year, 6th February 1792, he won a decisive victory in the field, and had invested the city on all sides, when Tipu purchased peace by the cession of half his dominions. Finally, the fort was stormed, led by Sir David Baird under General Harris, 4th May 1799, and Tipu fell in the breach. The siege was begun in April of that year with a powerful battering train, and the assault was delivered after a bombardment of nearly one month's duration. The place is malarious, which the natives attribute to the destruction of the sweet flag, a plant to which they assign extraordinary virtue as a febrifuge. The fort stands at the upper or western end of the island. At the eastern end is the Lal Bagh, containing a mausoleum built by Tipu Sultan for his father Hyder Ali, in which Tipu himself also lies. It is a square building, with dome and minarets, surrounded by a corridor, which is supported by pillars of black trap. The double doors, inlaid with ivory, were the gift of Lord Dalhousie. The inscription on the tombstone of Tipu relates how he died a martyr to Islam. Each of the two tombs is covered with a crimson pall, and the expenses of the place are defrayed by the British Indian Government.—*Imp. Gaz.*

SERONCHA, the chief station of the Upper Godavery district of the Central Provinces.

SEROW. HIND. ? *Nemorhædus bubalina*, *Jerdon*.

SERPA, a Bhot people in Nepal and Sikkim, who speak a dialect of Tibetan.

SERPENT.

<i>Ita</i> , Hayyat, . . .	ARAB.	<i>Serpe</i> , Serpente, . . .	IR.
<i>Oub</i> ,	CHALDEE.	<i>Anguis</i> , Anguilla, . .	LAT.
<i>Shie</i> ,	CHIN.	<i>Serpens</i> , Python, . . .	"
<i>Shlange</i> ,	GER.	<i>Mar</i> ,	PERA.
<i>Erpeton</i> , Ophis, . .	GR.	<i>Sarpa</i> , Ahi,	SANSK.
<i>Egchelus</i> ,	"	<i>Narn</i> ,	SIND.
<i>Aphah</i> , Puteu, . . .	HEB.	<i>Serpiente</i> , Culebra, . .	SP.
<i>Nachash</i> , Ouf, . . .	"	<i>Pambu</i> , Pambu, TAM.,	TEL.
<i>Sump</i> ,	HIND.	<i>Yilan</i> ,	TURK.

Serpents or snakes are alluded to in the most ancient of the writings and traditions of the world. They are very numerous in many parts in the south of Asia, admired yet dreaded by many, but protected and worshipped by other, of the races. The colours of the backs of such as creep on the ground are generally of a brownish hue, much resembling the soil on which they move. The colours of the *Dendrophidæ*, or tree

snakes, are of various shades of green, so that, aided by their quiet gliding motion, snakes, though numerous, unless looked for, are seldom seen by any person. But a search in the least promising places will always produce to the naturalist some specimens. The backs of the water-snakes, the *Hydridæ*, are also usually of a brownish colour, from which in the green sea water, or in that of quiet lakes or tanks, they are detected as readily as the tree and land snakes escape observance. All snakes have a long bifid tongue, which, usually, retracted in a sheath below the windpipe, is capable of rapid and vibrating protrusion through a chink in the rostral shield; it is moved by means of two long elastic bones extending along the greater part of its length in the form of a long V, with the tongue rising perpendicularly from the angle of the V; muscles convert these bones into levers, which jerk the tongue up and down with great celerity and freedom of play. This form of tongue is not peculiar to snakes; the large water lizards (*Varanus*), for instance, have this bifid organ still more developed. Harmless snakes have a row of about six to sixteen teeth in each upper jaw, besides generally two rows of palatal teeth. In the venomous kinds the maxillary teeth are generally replaced by a single tubular tooth of variable length, but hardly exceeding a quarter of an inch in an adult cobra, and half an inch in an adult chain-viper (*Daboia elegans*). The erection of the fang takes place to a very slight extent in the cobra, which is unprovided with any special erectile apparatus; the fang is always recurved backwards at an angle of about 45°, and received into a depression in the lower lip. In some of the vipers there is a special erectile muscle, but in every case the uncovering of the fang is a passive act as regards the snake, being effected by the gingival envelope being pushed up mechanically by the object bitten. The fang is at the anterior extremity of the upper jaw-bone, while the poison gland is situated on the cheek behind the eye; the poison, on being ejected either by direct muscular action, or by a reflex nervous action similar to that excited in the human mouth by the idea of eating lemon, proceeds along a duct, which passes below the eye over the jawbone, and terminates at the bottom of the gingival envelope of the fang, and just in front of the superior orifice of its canal. There is no continuity between the orifice of the poison duct and that of the poison fang. They are merely in apposition, and the poisonous salivary secretion is directed into the fang by the retraction of the gingival envelope round the fang in the act of biting. Every tooth in the snake's mouth, whether simple tooth or poison fang, is enveloped more or less in a gingival envelope, which contains at its base the matrix of a series of other teeth; these young teeth are constantly growing, and the eldest of them periodically replaces the fixed tooth, and becomes fixed until it is shed in its turn. This shedding is a gradual process compared to the shedding of the epidermis, but the two operations coincide in time, and take place about once in two months. The common exceptions are the cobra and the bungarus. In India the usual snake of the latter genus is *Bungarus arcuatus*, the white-arched bungarus; it has a white belly, from which pains

of white arches cross the black back. In Burma this is replaced by *Bungarus fasciatus*, the yellow and black-banded bungarus; it has alternate complete rings of black and yellow. The Hamadryad, *Ophiophagus elaps*, a member of the Elapidæ family, is extremely rare; it resembles a huge cobra. This family is also distinguished from the rest of the shield-headed or harmless colubrine snakes, by the absence of the loreal-shield, a small shield usually separating the antocular shield from the posterior nasal, so that there are but two shields instead of three between the eye and the nostril. The sea-snakes which have shielded heads are also an exceptional family, being all or nearly all venomous. They are known from other aquatic snakes by their perpendicularly-flattened tail. A scaly head (that is, the crown covered with scales as on the rest of the body) is generally the sign of a poisonous snake. The scaly-headed snakes are usually vipers. The Viperidæ have usually a high flat head, very distinct at the neck, and broad behind the jaws. They have long, more or less creticle fangs, with an erect pupil. The only one fatal to human life is the chain-viper, *Daboia elegans*, known by a triple chain of oval black links, and an indistinct yellow on its head. The green tree viper, *Trimeresurus*, is a short, stout snake, very different in build from the long, slender green tree snake; it is venomous in a very slight degree. As exceptions to these general remarks, however, the Erycidæ and Acrochordidæ have also scaly heads; a common sand snake, *Eryx Johnii*, might possibly be mistaken for a viper, but its small head is very different from that of the vipers. It is a popular belief that the male and female cobra are very different in appearance. The origin of this error appears to be as follows: The *Ptyas* (*mucosus* or *korros*), *dhaman* in Hindustani, *sarai* or *sara* pambou in Tamil, *chera* pambou in Malayalam, *lem-we* in Burmese, is generally supposed by natives of the south of India and of Burma, to unite with the cobra, producing a very venomous hybrid offspring, of doubtful identity; hence it is frequently called the male cobra. *Ptyas*, the *dhaman*, is indifferently known as the whip snake, the rat snake, the rock snake in Madras; whilst in Bengal the name rock snake is usually given to the python. Any snake found near or in the water is usually called a water snake, from ignorance of the fact that nearly all snakes can swim, and will readily take to the water if necessary. Indeed, a snake which rejoices in the highly terrestrial name of *Psemmodynastes pulverulentus*, the dusty king of the desert, was captured whilst it was swimming across the Rangoon lake. Also, if any word could be more inappropriate and deceptive than another, it is the term 'hood' as applied to the broad expansion produced by the elevation of the cervical ribs of *Naja tripudians* and *Ophiophagus elaps*. The native terms used to describe it, putum in Tamil and Malayalam, meaning a cloth, a picture, a map, and phun in Hindustani, both give an idea of breadth and expansion entirely wanting in the terms *capella* and *hood*.

Naturalists arrange the order of snakes into the two sub-orders, innocuous and venomous colubrine snakes, and the names of these will be found detailed under the Reptiles. Though the non-scientific world regard all snakes as poisonous,

and though many deaths do occur from snake-bite, the numbers of poisonous snakes are not great, and comprise species of the genera *Aipysurus*, *Acalyptus*, *Bungarus*, *Callophis*, *Daboia*, *Disteria*, *Calloselasma*, *Echis*, *Hydrophis*, *Enhydrina*, *Halys*, *Hypnale*, *Megerophis*, *Naja*, *Ophiophagus*, *Platyrus*, *Pelamias*, *Peltophorus*, *Trimeresurus*, *Xenurelaps*; 18 genera, and about 80 species. Deaths frequently occur from them in the south and east of Asia, because of the difficulty of avoiding them. In the six years 1875 to 1880, the deaths from snake-bites in British India were as under. In 1861 they were 18,670:

1875, . . .	17,070	1878, . . .	16,812
1876, . . .	15,946	1879, . . .	17,388
1877, . . .	16,777	1880, . . .	19,150

Yet they have many enemies. Mr. Bennett, who resided much in the south-east of Ceylon, ascribed the rarity of serpents in the jungle to the abundance of the wild pea-fowl, whose partiality to young snakes renders them the chief destroyers of these reptiles. It is likely, too, that they are killed by the jungle-fowl, for they are frequently eaten by the common barn-door fowl in Ceylon. This is rendered the more probable, by the fact that in those districts where the extension of cultivation and the visits of sportsmen have reduced the numbers of the jungle-fowl and pea-fowl, snakes have perceptibly increased. The deer also are enemies of the snakes, and the natives who have had opportunities of watching their encounters, assert that they have seen deer rush upon a serpent, and crush it by leaping on it with all its four feet.

Snakes are said to avoid the fennel plant, as well as all places where the fennel seed (*Nigella sativa*) is strewed.

In some parts of the country are serpents of great length, up to 26 feet long. They feed on all the smaller animals, but they can exist an indefinite time without food.

Snakes cast their skins periodically, and the Chinese and Hindu physicians use the skins medicinally.

Most serpents or snakes can move by springs or leaps, often of considerable extent. The Editor has seen a large snake cross the high-road in the flats at Bombay by two leaps.

Nearly all with a hood are poisonous; the *Comptosoma radiatum* and *Tropidonotus macrophthalmus* are exceptions.

Naja tripudians, cobra, cobra di capello, occurs in several varieties, to each of which the natives give a name. They are all poisonous. The Gokurrah has spectacles on the hood. Those with one ocellus or other mark on the hood, are called Keautiah.

Ophiophagus elaps is the Hamadryad of Gunther, the Sunkorchor of Bengal, and *Al Raj* of Orissa. One variety, olive-green above, is found in Bengal, Assam, Malay Peninsula, and S. India. The brownish-olive is found in Bengal, the Philippines, and perhaps in Burma; and the black variety is a Borneo reptile. The genus is widely distributed in Cuttack, Bengal, Sunderbuns, Rangoon, in the Andamans, Philippines, Java, Sumatra, Borneo, N. Guinea. It is the most aggressive of all the Indian poisonous snakes. It lives upon snakes.

Bungarus fasciatus is the Sankni or Raj Samp of Bengal, the Bangaraw pambu of S. India, and

SERPENT.

the Koklia Krait of the N.W. Provinces. It is from 4 to 8 feet long. It occurs in Hindustan, S. India, and Burma. Its bite is very dangerous; dogs die in 4 to 28 hours.

Bungarus cæruleus.

Dhomon chiti, . . . BENG. | Krait, HIND.

Gedi Paragoodoo, TEL., of Russell. It occurs throughout India, N.W. Provinces, Rajputana, Gujerat, Dekhan, Madras. It has three varieties, one of them, *B. lividus*, *Cantor*, is blackish-brown above; another variety has a series of vertebral white spots; and a third, the *B. arcuatus*, *Dum.* and *Bib.*, has narrow white streaks in pairs on its upper parts. It is from 2 to 4½ feet. The *Lycodon aulicus*, an innocent snake, and it, are frequently mistaken. All the species of *Bungarus* and *Hamadryas* are fierce snakes.

Callophis McLellandii has two varieties from Nepal and Darjiling, and a third variety from Assam.

Daboia Russellii.

D. elegans; Russell's viper; Chain viper.

Jessur, BENG. | Tie polonga, . . . of CEYLON.
Shah chunder, " | Katuka, Rekula, . . . TAM.
Amaiter, " | Poda,

It is to be found in most parts of India, in the plains and hills, also in Kulu up to 5000 feet, and in Kashmir 2000 to 6000 feet. It is of a greyish-brown colour, 3½ feet long; it is less deadly than the cobra. Its size and nocturnal habits render it more dangerous than the *Trimeresurus* and *Hypnales*.

Echis carinata.

Afae, HIND. | Horatta pamu, . . . TAM.
Kuppur, SIND. |

Occurs in most parts of India. It is brown or brownish-grey, 22 inches long; it is very active, is fiercely aggressive, is always ready to attack, and throws itself into a double coil, the folds of which as they rub against each other make a rustling sound. It can dart a foot or more to strike its prey.

Trimeresurus carinatus, one of the *Crotalidæ* or pit vipers, found in Bengal, Sikkim, and Burma; 36 inches long, and grass-green above.

Trimeresurus Animalensis, 27 inches long, yellowish-green in colour, occurs in the Annamallay Hills in S. India.

Trimeresurus erythrurus occurs in the Nicobars, Moulmein, Penang, and Java. It is 33 inches long, and of a grass-green colour.

Trimeresurus monticola occurs in the Sub-Himalaya, Darjiling, Nepal, Sikkim, Khasiya, Neilgherries, and Annamallay. It is 33 inches long, of various shades of dark-brown.

Mr. Theobald describes two others, viz. *Trimeresurus Andersonii*, *Theobald*, found in Assam, and *Trimeresurus obscurus*, *Theobald*, of a uniform black colour, also of Assam.

Trimeresurus strigatus, of a brown colour, is 14½ to 19 inches long, is found in the Dekhan, the Annamallays, and Neilgherries.

Hals Himalayanus, 28 inches long, occurs in the Hatu mountain near Kotgurh, is very common in the N.W. Himalayas. It is brownish-green to brownish-black above.

Hypnale nepa, *Kara willa*, TAM., a much-dreaded snake, 19 inches long, found in Malabar, Annamallay, Ceylon; colour brown, or grey, or reddish-olive.

Pelamis bicolor, a sea-snake, with four varieties,--a. black above, sides and belly brownish-

SERPENTINE.

olive; β. a second, back black, belly and sides brown; γ. a third, black of back narrow; δ. fourth, yellow, with 50 brown bands. It abounds in all the eastern seas. It is very poisonous.

Enhydrina Bengalensis, a very virulent sea-snake, common in the tidal waters of the Sunderbuns and Bay of Bengal; 36 to 48 inches long. One killed a fowl in seven minutes.

Platurus Fischeri, a sea-snake, 30 to 48 inches long, found in Tollys nullah, a tidal stream near Calcutta.

Hydrophis Jerdonii, *Anderson*, 36 inches long.

H. robusta, *Fischer*, 70 inches, occurs on the coast of India and in the Archipelago.

H. crassicolis, *Anderson*, 51 inches long, is found in the tidal streams near Calcutta.

H. cyanocincta, 69 inches long, is common in the Bay of Bengal, the Archipelago, and China, and Japan seas.

H. Stewartii, *Anderson*, is 38 inches long, occurs at Puri, Cuttack.

H. nigra, *Anderson*, is of a uniform dense black, occurs at Puri, Cuttack.

H. nigrocincta, 23 inches long, colour yellow, with complete rings of a black colour.

H. coronata.

H. chlorosis. See Reptiles, pp. 386, 393.

SERPENT EAGLE, *Circæus gallicus*, *Gmel.*

Common serpent eagle. | *C. brachydactylus*, *Meyer*.

Sap-maril, BENG. | Pamula gedda, . . . TEL.

Mal-patar, CAN. | Rawul . . . of the WAGRI.

Samp-mar, HIND. | Kondatelle of the YERKALI.

Pambu prandiu, . . . TAM.

This serpent eagle is found in the south of Europe, North Africa, common all over India and Asia; has been killed in Denmark, but never in the British Islands; prefers the open ground, questing like a harrier. It eats any creature, but snakes and lizards are its chief food. Hovering in the air, and suddenly like a stone pouncing down, it seizes with its talons the snake by the back of the head, and the snake often twines its body around the bird and encumbers it.

Spilornis cheela, *Daud.*, Crested Serpent Eagle.

Falco albidus, *Char.* | *C. Nepalensis*, *Hod.*

F. undulatus, *Vigors*, | *Buteo bacha*, *Franklin*.

Circæus undulatus, *Jerd.* | *B. melanotus*, *Jerd.*

Tilai-baj, BENG. | Botta-genda, . . . GOND.

Sab-cheer, Furj-baj, " | Murayala, . . . MAHR.

Goom, CAN. | Nalla pamula gedda, TEL.

The crested serpent eagle is found all over India, in Assam, and Burma. It lives on snakes, lizards, rats, frogs, and insects.

S. bacha, *Daud.*, from Java and Sumatra; is the *Falco bido* of Horsfield.

S. spilogaster, *Blainv.*, from Ceylon and Southern India.

S. holospilus, *Vigors*, is from the Philippines.

SERPENTINE is a term which has been applied to diallage, to crystallized and fine-grained greenstone, and also to a magnesian limestone, and when of the latter composition is called verd antique marble. It is found in the form of dykes and thick beds in the schistose rocks of Salem, also near Bezwarah on the Kistna. A serpentine of great beauty occurs at Turivacary in Mysore. It is composed of a dark-grey or black talcose paste imbedding numerous small black crystals of a mineral containing a large proportion of iron, being strongly attracted by the magnet. It takes a high polish, and is said to be the material of the beautiful pillars of the

mausoleum of Hyder Ali at Seringapatam, which Buchanan Hamilton, Benza, and Malcolmson designated basaltic greenstone.

A beautiful serpentineous marble is obtainable in the eastern part of the Cuddapah district, and in the Kurnool district. The serpentine of the Panjab is made into cups.

Precious serpentine exists in the Hukong valley, north-west of Ava, whence it is exported to China, and brought into the southern parts of the empire. It is also found in the country of the Singpho, about 8 or 9 miles to the north of a large lake, the Eng-dan-gyi, over a hilly country of 18 or 20 miles in length. At particular seasons, about a thousand men—Burman, Chinese, Shan, and Singpho—are at work in the serpentine mines.—*Waterston; Faulkner; Mason; Walton's State; Tomlinson.*

SERPENT'S EGG.

Glain naider, . . .	CELT.	Serpent's gem.
Glaine nan Druidhe, "		Druid's head.
Ovum anguinum, . .	LAT.	

It was held in high estimation by the Druids.

Serpent Gem is a superstition still lingering in Scotland, and amongst the ruins of Tadmor.

SERPENT STONE. Shi-hwang, CHIN. The bezar. Tavernier says (Tr. p. 155) some are almost oval, thick in the middle, and thin about the sides. 'The Indians,' he says, 'report that it is bred in the head of certain serpents, but he supposed it rather to be a story of the idolaters' priests, and that the stone is rather a composition of certain drugs. Whatever it be, he says it is of excellent virtue to drive any venom out of those that are bit by venomous creatures. If the person bit be not much wounded, the place must be incised, and the stone being applied thereto, will not fall off till it has drawn all the poison to it. To cleanse it, you must steep it in woman's milk, or for want of that, in cow's milk; after the stone has lain ten or twelve hours, the milk will turn to the colour of an apostemated matter.' The Archbishop of Goa, carrying Tavernier to his cabinet of rarities, showed him one of these stones, and after he had assured him of the rare qualities it had, gave it to Tavernier. Once as he crossed a marsh in the island of Salsette, where Goa stands, one of the men that carried his palanquin, being half-naked, was bit by a serpent, and healed at the same time. He bought several, but there were none but the Brahmans that sold them, which made him believe that they compound them. 'There are,' he says, 'two ways to try whether the serpent stone be true or false. The first is by putting the stone in your mouth, for then it will give a leap, and fix to the palate. The other is, by putting it in a glassful of water; for if the stone be true, the water will fall a-boiling, and rise in little bubbles up to the top of the glass. There is another stone, which is called the serpent stone with the hood. This is a kind of serpent that has a kind of hood hanging down behind the head. Behind this hood the stone is found, many times as big as a pullet's egg.' There are some serpents both in Asia and America of a monstrous size, 25 feet long; as was that, the skin whereof is kept in Batavia, which had swallowed a maid of ten years of age. These stones are not found in any of those serpents that are not at least 2 feet long. This stone being rubbed against another stone, yields another stone, which being drunk in

water by the person that has the poison in his body, powerfully drives it out. These serpents are nowhere to be found but upon the coasts of Melinde; but for the stones you may buy them of the Portuguese mariners and soldiers that come from Mozambique.—*Tavernier's Tr.* 155.

SERPENT WORSHIP and Spirit Worship are the prevalent cults in the East Indies; and throughout British India, spirits, snakes, stones, shells, trees, and fossils are worshipped. The last is the saligramma of the Hindus, and is found in the river Gandak. Also the ban-lang, or rude lingam of the Hindus, is a stone rounded by attrition, found in the rivers of Rajputana. According to the Earl of Roden, a stone at Mayo was carefully wrapped up in flannel, periodically worshipped, and supplicated to send wrecks on the coast. Stones were till recently worshipped in Fiji, New Hebrides, and related to the lingam worship of other races. The chank shell, species of *Turbinella*, is found in abundance in the Pambau Channel, between Ceylon and Tinnevely; some fetch great prices. Psalm lxxxi. 3, says, 'Blow up the trumpet in the new moon, in the time appointed, on our solemn feast-day.' And Hindus similarly announce some of their festivals by the sound of this sacred shell.

Snakes have been worshipped by many races; the Jews, 2000 years B.C., adopted this worship. At Lanuvium, 16 miles from Rome, was a dark grove sacred to Juno, and near it the abode of a great serpent, the oracle of female chastity.

The naga snake of India, cobra di capello, is revered by all Hindus, and Hindu women resort to the white ant nests in which the cobra generally takes up its home. If a cobra be killed, the Hindus give it a funeral, as if it were a human being; their gods and deified warriors, and the lingam, are figured shadowed by the outspreading hoods of 3, 5, 7, 9, or 11 cobras.

In all mythological language the snake is an emblem of immortality; its endless figure, when its tail is inserted in its mouth, and the repeated renewal of its skin and vigour, afford symbols of continued youth and eternity. In Hindu mythology serpents are of universal occurrence and importance, and the fabulous histories of Egypt and Greece are also decorated with serpentine machinery. The accepted explanation of the traditions of the Garuda, and his victories over the snakes, is that Garuda is the type of the religion of Vishnu, and the snakes alluded to are the naga or snake race who followed the Buddhist faith of Sakya Muni. There is ample proof to show that at one time the opHITE or snake worship extended all over India; and everywhere throughout the Peninsula and Ceylon, snakes are to this day worshipped. In the holy books of the Hindus, the destruction of the entire serpent race by the raja Janamejaya, the son of Parashit, is chronicled as a historical event, but probably it is merely a typical and emblematical shadowing forth of the actual fact, i.e. that the faith of the Vedas was founded on the ruins of the original and local superstition of the nagas, when Janamejaya subverted the ancient opHITE worship. At all events, there is no doubt whatever that this singular superstition existed originally in Kashmir, as snakes and snake deities play an important part in the legendary history of the valley. Abul Fazl (alluding to an epoch about 360 or 400

years B.C.) mentions 'that there are 700 places where carved snakes are worshipped in the province.' The Hindu races worship three classes of deities,—the gramma deva, or village god; the kula deva, or household god; and the ista deva, the personal or patron god. Snake-worship is general throughout peninsular India, both of the sculptured form and of the living creature, invariably the nag or cobra, and almost every hamlet has its serpent deity. Sometimes this is a single snake, the hood of the cobra being spread open. Occasionally the sculptured figures are nine in number, and this form is called nao-nag; but the prevailing form is that of two snakes in the form of the Esculapian rod. Whatever be the origin of the adoration, throughout Southern India the worshippers resort to the snake's residence, called in Urdu the Samp-ki-hut, which they ornament with streaks of vermilion, and daubs of turmeric and of wheat flour mixed with sugar, and they hang garlands of flowers near, strung on white cotton thread, and placed over wooden frames. The Mahratta women go a number together to the snake's hut, and, joining hands, for five times circle round and round it, singing songs, praying for their desires, and then prostrating themselves. Also in the month Sravan, which falls in the rainy season, the Nag-panchami festival occurs, on which Hindus go in search of snakes, or have them brought to their houses by the Sampeli snake-charmers. The snakes are then worshipped, and offerings are made to them of milk, and nearly every house has figures of snakes drawn on wood or on paper, which are fixed on the walls and worshipped. Alike in the several vihara and the chaitya at Ajunta are sculptured figures of snakes. The gramma deva of Assaye, where Sir Arthur Wellesley defeated the Mahrattas, is a figure of Hanuman with a lingam, and the Nanda or Basava, the vahan bull of Siva, and the tulsi plant growing near; but on the western wall of the village chatra a cobra snake is sketched, in white colours, in the wavy form which snakes assume when moving on the ground. The worshippers believe that it is travelling to Lanka (Ceylon), but they smiled on it being remarked to them that it would be a long time on its journey. Figures of the cobra snake are often drawn on paper and in sculpture, with the hood spread like a canopy over the lingam, the emblem of Siva; and this deity is often represented sitting on a tiger skin with a cobra snake wound around his head. Siva is fabled to have drunk up the poison produced in the churning of the ocean, and, in his agony, wrapped snakes around his neck to cool himself. Vishnu, in his prolonged sleep, while passing from one avatar to another, is shaded by the canopy of a cobra's head.

In Southern India, the deity under whose name the snake is worshipped is Subramani, whose shrine is in the western part of Mysore, and the image there is described as a shapeless lump of earth. At Ahmadruggur, in 1841, in a clear moonlight night, five pairs of cobras, one after another, dropped into the garden, from over the thatched roof of the house, and stood erect on their tails. They were all cobras, and were in congress. A military officer, to whom the Editor showed these remarks, mentioned in reply that he once in broad daylight, in the jungles, saw pythons in the attitudes here described. Natives of India recognise

it as the serpent's Laq, believe that it is most fortunate to witness snakes so engaged, and that if they can throw a cloth at the pair to touch them with it, the cloth becomes a representative form of Lakshmi, of the highest virtue, and is taken home to their houses and preserved as such. The snakes when in congress rise on the tips of their tails and approach each other, not twining as represented in the Esculapian rod, though, at a little distance, they seem to be twining.

Ordinarily no Hindu will kill a snake, but turns aside on seeing it. Young men who have been educated at English schools, however, have no such great reserve, and a Mahratta Brahman so educated, informed the Editor that he had killed three of them. Snakes are kept in houses in Ceylon and Gujerat, partly, seemingly, as objects of worship and partly to destroy rats. In Gujerat no one will kill a snake, but it is taken outside the town and released. Esculapius, amongst the Greeks and Romans, was the god to whom the care of medicine and health pertained. Eamun, the snake-god of the Phœnicians, is identified by Bunsen with the Egyptian Hermes, called Tet and Tautes in Phœnician. Eamun Esculapius is strictly a Phœnician god. He was especially worshipped at Berytus. At Carthage he was called the highest god, together with Astarte and Hercules. At Babylon, Bel corresponded with him. According to Jamblicus and the Hermetic books, the Egyptian name of Esculapius was Kameph. The Aswini Kumara, the sons of Surya, amongst the Hindus, correspond with the western Greek and Roman Esculapius, but they do not have the twining snake rod. Mr. Fergusson has expressed his belief that serpent-worship mixed with Buddhism must have prevailed all through the Nizam's country and Berar, from at least the 4th to the 10th or 12th centuries. A great serpent is said to have been worshipped at Sumbulpore on the Mahanadi ever since the world began. The snake-worship of the Takshak travelled from Scythia to Kashmir and thence to Hindustan.

Few subjects have more occupied the notice of the learned world than the mysteries of ophite-worship, which are to be traced wherever there existed a semblance of civilisation, or indeed of humanity; have in general been associated with tree-worship, and attended by human sacrifices. Serpent-worship has been supposed by Mr. Bathurst Deane to have been the only universal idolatry. In Asia evidence of serpent-worship has been found in Africa, Palestine, Chaldaea, Babylon, Persia, Kashmir, Cambodia, Tibet, India, China (traces), Ceylon, and among the Kalmuks. It has been found among the races of Europe, among the tribes in America, and is practised to the present day in Africa. The only part of Asia which seems to have remained free from it is China; but throughout all the S. of British India snake-worship still prevails amongst all classes of Hindus. The naga, or serpent-genii of the Rajputs, have a semi-human structure, precisely as Diodorus describes the snake-mother of the Scythæ; and Olaus Magnus, writing in the sixteenth century, speaks of serpents as still kept as household gods in Sweden. The origin of this form of worship is lost in antiquity. One possible surmise has been obtained from the known love of many races for totems, animal or vegetable gods, after which they

are named. The American Indians all possessed them, as also the Australian tribes. In Central Asia, most of the Kirghiz tribes trace their origin back to some animal which they venerate and worship; and amongst the Tartar races, who designated their septa after some beast, as the naga or snake, the langaha or wolf, the lumri or nunri or fox, the sessu or hare, cutchwah or tortoise, etc., the sept revered the creature from which they took their name. If the totemic origin of serpent-worship be the correct one, the serpent, like other totemic deities, would, from its origin, have a benevolent character. M. Boudin says, 'Le culte du serpent est indépendant de toute influence ethnique;' and M. Lajard says, 'Dans la plupart des langues dites Semitiques, le mot que signifie la vie, hayy, ou hay, hayn, heyoy, hayy, signifie également le serpent.' In several of the ancient religious systems the serpent presides at the creation of the world, and is the god of life or health.

The Chivun mentioned in Amos v. 26 is supposed to be the deity Siva. Professor Sayce thinks it is the planet Saturn. Givun is a Phœnician word signifying serpent. Cabrera thinks Chivun has the same signification as Givun or Hivim, i.e. descendant of Heth, son of Canaan. The Givun or Hivites were descendants of Cadmus and Hermione, his wife, who, according to Ovid's metamorphosis, were changed into serpents and had divine honours paid to them. Tripoli was formerly called Chivun; Votar says, I am a serpent because I am a Chivun, which can also be rendered, 'I am a Hivite from Tripoli.' In Egypt, both tree and serpent worship prevailed, as parts only of the general animal and vegetable worship. The serpent was honoured in Tyre from an early period down to the time of Alexander. Solomon says 'they worshipped serpents void of reason.' It seems to have been repressed, but it again cropped up amongst the same people in the Christian sects of Ophites, Nicolaitans, and Gnostics. According to Tertullian, *De Præscript. Hereticorum* cxlvij., the Ophites even preferred the serpent to Christ. They kept a living serpent in a chest, as, or to represent, the god. Serpent-worship does not seem to have been known in Germany, though the tree was worshipped there, as also in Gaul. In ancient Sarmatia and modern Poland both trees and serpents were worshipped by the peasantry, even to the limits of the 19th century.

The totem cult may explain why with most races the serpent has been regarded as a protecting deity, an agathos demon, and would also explain the claims made by races and individuals to be of snake or naga descent.

Scipio Africanus is said to have believed himself the son of a snake; and Augustus allowed it to be understood that his mother Atia had received him from a serpent. Alexander the Great, before he undertook to prove himself the son of Jupiter-Ammon, was supposed (apparently by Philip himself) to be the son of a serpent, who actually appeared to him in a dream in later years to save the life of his general Ptolemy. In the Turanian form of Buddhism, Sakya and Buddhist kings are invariably represented under the protection of the hooded snake, or of three or more snakes, which are figured as rising behind, and with the hood shadowing the seated image. This form of protection has been transferred to the lingam

(phallus, priapus), the emblem of modern Saiva Brahmanism; and everywhere are to be seen, throughout all the south of India, the sculptured figures of one, three, or nine naga heads, overshadowing this symbol of reproduction.

In the earliest records of the Semitic thought, the serpent and the tree take a prominent position. Adam and Eve are taught by the serpent more subtle than any beast of the field, and the tree of knowledge supplies the fruit to enlighten them. Moses' rod was turned into a serpent, but pressure by the thumb on the back of a serpent's neck produces temporary catalepsy, and Moses and Aaron, and afterwards the Egyptian magicians, imitated this. An image of a snake was made for the Jews, and snake-worship continued amongst that race for seven hundred years; and in the days of Hezekiah 'the children of Israel did burn incense' to the self-same brazen serpent, which was actually preserved in the very temple (2 Kings xviii. 4). The reformer king at the same time 'cut down the groves, and brake in pieces the serpent,' thus combining in common ruin the two ever-parallel idolatries.

The serpent was worshipped in Chaldaea, where, as in Egypt, it was called Oub, hence the Greek *οὐβς*. This word, as Oboth, is translated familiar spirit in *Leviticus* xi. 6, 27. (See also 1 Samuel xxviii. 3, 7, 9; 2 Kings xxi. 6, xxiii. 21; 2 Chron. xxxiii. 6.) The woman of Endor is called a mistress of Ob; and Jotham, king of Israel, built much on the wall of Ophiel, i.e. the serpent-god, for the worship of snakes. Obi men and Obi women, the designation of the pretended diviners amongst the negroes of the West India colonies, is the same word, and probably brought with them from Africa. The pethen of the Hebrews, the python of the Greeks, and lathen of the Arabs, from which we have the words python and pythoness, is that form alluded to in *Acts* xvi. 16, as the damsel with the spirit of divination. In the theology of Zoroaster, Dahaka or Zohak was an evil being created by Ahrimanes. In Persian mythology, Zohak is a king who reigned at Babel for 1000 years, having two serpents growing between his shoulders, and daily devouring men, until his own destruction by Faridun, the servant of Hormazd.

Persius speaks of the custom of painting certain conventional figures of serpents on walls, to indicate the sanctity of the spot, a practice of which there are several examples at Herculaneum and Pompeii. The serpent is seen as 'genius loci' upon the coins of many of the towns of Asia Minor,—Cyzicum, Pergamos, Marcianapolis, in Mysia, Aboniteichos and Amastria in Paphlagonia, Nice and Nicomedia in Bithynia, Tomos in Pontus, and Mindus in Criaa, all exhibit the serpent as their ensign. In Epidaurus, down to the time of Pausanias, serpents were kept and fed in the grove attached to the temple of Esculapius. The Greeks had myths regarding the python and hydra, the echidna and the dragon of the garden of the Hesperides; but in historic times the Athenians kept a serpent in the Erechtheum, and its escape warned them to fly from the Persians; and Pausanias tells us that the Epidaurian serpents held their place amongst the gods of Greece till long after the age of Christ. *Livy* (x. 47), *Valerius Maximus* (i. 8, 2), *Aurelius Victor* (xxii. 1), and *Ovid* (*Met.* xv. 5) mention

the serpents of Esculapius kept at Epidaurus, which the Roman Senate sent an embassy to obtain. A plague ravaged Rome in the year of the city 462; a living serpent was solemnly fetched from Greece to Italy, and received with divine honours, on the banks of the Tiber, by the Senate and people of Rome, and Esculapius received honours similar to those alluded to in Numbers (xxi. 8, 9) as occurring in the Arabian desert. After that occasion a serpent, in a conventional attitude, was, in the Roman world, the recognised type of a sacred place. In India, in the centuries preceding and following the Christian era, serpent-worship and tree-worship seem to have had repeated revivals, and the serpent-embazoned topes of Sanchi and Amravati are the existing monuments of the fact.

Buddha died B.C. 543. Buddhism was in India only a struggling, lingering sect till the time of Asoka, whose edicts, B.C. 255, remain engraved on rocks. In the inscriptions of Asoka, Buddhism appears as a system of pure abstract morality, no trace being exhibited of the worship of Buddha himself, or of the serpent or tree. About the beginning of the Christian era, however, a Naga or Turanian revelation became incorporated with it. It had at this time fallen into a state of decadence, and was represented by no fewer than eighteen different sects. The Buddhist school of this time was known as the Hinayana. At this time Nagarjuna appeared. The sayings of Sakya Muni had been during his lifetime recorded by the Nagas, from whom Nagarjuna obtained the documents, and he proclaimed them in A.D. 410. The gateways of the Sanchi tope belong to the first half of the 1st century of the Christian era, and though subsequent to the Naga revelation the sculptures scarcely indicate its existence. Buddha does not appear on the Sanchi sculptures as an object of worship. The serpent is there, but rare. The dhagoba or depository of the relics of saints is there, as also are the tree, the wheel, and other emblems, and the whole of the sculptures on the Sanchi tope may be illustrative of the Hinayana school of Buddhism, at the period when other doctrines were about to be introduced. The Amravati sculptures, again, belong to a period 300 years later than that of Sanchi, and in them the new school of Mahayana Buddhism may be studied. In these Buddha is an object of worship, but the serpent is his co-equal. The dhagoba, tree, and wheel are revered, and the sculptures contain all the legends of the later books, though in a purer form. Hindus, Daaya, and other men, women, and animals, especially monkeys, appear in the sculptures worshipping the serpent and other gods. The serpents are all divine, five and seven headed, and representations are numerous of the Naga angelic orders, the female Naga, with one serpent only springing from the back, the male Naga with three.

At Sanchi the serpent-worship had been in the background, and the tree-worship prominent. At Amravati, in the oldest part, the tree flourishes as usual; but in the later portion the serpent appears ten or twelve times as the principal object of worship; twice he shields the head of Buddha, and forty or fifty times he appears spreading his protecting hood of heads over rajas and persons of importance.

This may be reckoned the culmination of Buddh-

istic serpent-worship in India. Four centuries later, Brahmanism revived, and Buddhism was banished to Further India, Ceylon, China, and Tibet; but tree-worship has been more openly adhered to by the Buddhists in the island of Ceylon than that of serpents.

In the temple of Nakhon Vat in Cambodia, now in ruins, every angle of the roof, every cornice, every entablature, bears the seven-headed serpent, and there are tanks in which the living serpents dwelt and were adored. With the disappearance of Buddhism from Hindustan, and the rise of modern Brahmanism under the leadership of Sankaracharya, about the beginning of the 9th century A.D., the erection of such Buddhist buildings ceased, but the worship of trees and snakes has been continued under other forms. Dynasties have ruled claiming to be of Naga descent; but now Vasuki and Sesha are kings of the serpent deities who live in Patala. The serpent-goddess is worshipped in the Euphorbia antiquorum. This goddess mother of the serpents, and goddess presiding over them, is Manasa, the object of love and devotion, and, as the name implies, an allegorical creation. Her brother, the chief of the serpents, is Ananta or Sesha, eternity, literally endless, of which the universally acknowledged symbol is a coiled snake. Though represented as the support of Vishnu while floating on the fathomless sea of chaos before creation (God in eternity), he is, in the Puranas, described as having the form of Vishnu, meaning, perhaps, the eternity of Vishnu.

The Cheru of Hindustan declare themselves to be descended from the great serpent, and are supposed to be the remnant of the Nagbansi of Magadha. The crest and signature of the raja of Chutia Nagpur is the head and hood of a snake called Nagsanp. The god of the raja of Manipur is the Pakung-ba snake, from which the royal family claim descent. When it appears, it is coaxed on to a cushion by the priestess in attendance, who then performs certain ceremonies to please it.

Many legends are told by the people relating to snake beliefs. Two guests, says an author, came once on a time to the house of a Shrawuk Waneoo. The master of the house was at the market, and his wife, after she had made her friends sit down, was obliged to go away to the well for water. While the guests sat waiting for the master of the house, a large snake made its appearance. One of them jumped up and pinned it to the ground with a stick, while the other set to work to find a split bamboo, which people keep ready in their houses for securing snakes. Meanwhile the woman came back with the water, and seeing the snake pinned to the ground, cried out, 'Let him go, let him go; he is our Poorwuj Dev; he used to get into my mother-in-law's head, and set her a-trembling, and then he would mention the name of my father-in-law, who died some time ago, and say that it was he. He said also that his soul had been wrapped up in his property, on which account he had become a snake, and was going to live in the house. One day he bit a neighbour of ours, and the Jutee came to cure the man. Poorwuj Dev then set the neighbour a-trembling, and said he had bitten him because he fought with his son, and that he would quit him when he got security that there should be no more quarrelling. In this way he quitted him. From that day forth

if the snake go to our neighbours' houses no one molests him. If at any time we were to set him down at a place twenty miles off, he would come back to this very spot. He has often touched my foot, but he never bit me; and if I happen to be gone to draw water, and the child cry at home, he will rock him in his cradle. This I've seen him do many a time.' In this way she prevented their interfering with the snake, and, releasing him, paid him obeisance. The guest, too, who had seized him, took off his turband, and said, 'O father snake, forgive my having pinned you to the earth. I am your child!' After a short time, a cat having killed the snake, the people of the house took the pieces of it and burned them on a pyre, offering, in fire-sacrifice, a coconut and sandal-wood, with clarified butter. This was to perform the snake's funeral rites, and is customary at the present day.

A Brahman, having purchased premises in the ancient town of Dholka, set to work to make excavations for a new building, and in so doing came upon a subterranean chamber, which contained a great deal of property. There was, however, a large snake stationed there to protect the treasure, which snake appeared to the Brahman by night in a dream, and said to him, 'This property is mine, and I live here for its protection; therefore you must not injure the chamber, nor covet the treasure which it contains. If you do so, I will cut off all your posterity.' In the morning, the Brahman poured a vessel of hot oil into the chamber, so that the snake died. He then destroyed the chamber, having first removed the treasure, and burned the body of the snake in due form in the yard of his house. With the treasure he had thus obtained he erected splendid buildings; but he never had a son, and his daughter remained childless, and whoever received any part of the property, or became his servant, or acted as his agent or as his family priest, was childless too. These things happened, it is said, about A.D. 1830, and it is the general belief in India that serpents are always to be found wherever a hoard is buried.

Leprosy, ophthalmia, and childlessness are supposed by Hindus to be the punishment of men who in a former or present birth may have killed a serpent, and to be relieved of these the worship of the serpent is enjoined. The idea of their curative virtues is very old, and is still believed in India. A Hindu attacked by fever or other diseases, makes a serpent of brass or clay, and performs certain ceremonies to its honour, in furtherance of his recovery. Such ceremonies are particularly efficacious when the moon is in the nakshatra (mansion, sign, or asterism) called Sarpā or the serpent; called also Aslesha. The 11th day of the bright half of the month Ashada commences with the summer solstice. In Hinduism it is the night of the gods; nine days thereafter, that is, on the fifth after the full moon, is a festival in honour of Devi, the goddess of nature, surnamed Manasa, who, while Vishnu and all the gods were sleeping, sat in the shape of a serpent on a branch of a Euphorbia (Snuhi) to preserve mankind from the venom of snakes. The 5th day of the bright half of the month Sravana is called Naga-panchami, and is sacred to the demi-gods, in the form of serpents, who are enumerated in the Padma and Garuda Puranas. Doors of houses are smeared with cow-dung and leaves of the nim tree (species

of Melia and Azadirachta), as a preservative from poisonous reptiles. Both in the Padma and Garuda Puranas is mention of the serpent Kaliya, whom Krishna slew in his infant hand, and which is also worshipped on this day. The feast of Naga-panchami, from Naga, serpent, and Panchami, five, is celebrated, as the name implies, on the 5th day of the bright half of the month of Sravana; but some hold it on the 4th day also, when the day is called Naga-chauti (Naga, serpent, and Chauti, four). This day is observed chiefly among the Brahmans and other Hindus of Northern India, Maharashtra, and Teluguana. Tamil Brahmans and Sudras do not observe it. On this day the women bathe and adorn themselves in their best clothes and jewels, and proceed to the places where the figures of the nagas or cobras are consecrated and established, or to ant-hills, supposed to be the abode of snakes, where they pour milk and place garlands of flowers, but especially of cotton, and the usual accompaniments of Hindu worship, such as betel-nuts, fruits, cakes, etc. Some worship at their own home the figure of the naga (or cobra) made in gold or silver; and others send for a living cobra to their homes, feed it with milk, and give small presents to the snake-charmers who frequent the streets on this day. Men and women having no children, and others who are troubled with ailments of the ear, make anew, or fulfil their old, vows on this day, should the object of their desires have been obtained.

The enemies of the cobra, mythologically as well as in fact, are the Garuda, the bird-vehicle of Vishnu, and the Mayil or the peacock, which is the favourite vehicle of Subramaniya, the second son of Siva. In the south of India, the accepted type of Garuda is the common Brahmany kite (Haliastur Indus), which is held in respect, and fed with goat's or sheep's flesh on Sunday mornings, by those who consider it a favourable omen to see a Garuda on the morning of that day, or on the evening of Thursday. This bird pounces upon and carries off the cobra in its claws, and kills it. Garuda is also the proverbial, but not the utter, destroyer, for he spared one, they and their archetype being, in reference to created beings, eternal. His continual and destined state of warfare with the serpent, a shape mostly assumed by the enemies of the virtuous incarnations or deified heroes of the Hindus, is a continued allegory of the conflicts between vice and virtue, so infinitely personified. Garuda at length appears the coadjutor of all virtuous, sin-subduing efforts, as the vehicle of the chastening and triumphant party, and conveys him on the wings of the winds to the regions of eternal day. Destroyer of serpents, Nag-antaka, is one of his names. Some mythical Hindu legends make Garuda the offspring of Kasyapa and Diti. Diti laid an egg, which it was predicted would produce her a deliverer from some great affliction. After a lapse of five hundred years, Garuda sprang from the egg, slew to the abode of Indra, extinguished the fire that surrounded it, conquered its guards, the devata, and bore off the amrita (ambrosia), which enabled him to liberate his captive mother. A few drops of this immortal beverage falling on the Kusa grass (the *Poa cynosuroides*), it became eternally consecrated; and the serpents, greedily licking it up, so lacerated their tongues with the

sharp grass, that they have ever since remained forked; but the boon of eternity was ensured to them by their thus partaking of the immortal fluid. This cause of snakes having forked tongues is still popularly, in the tales of India, attributed to the above greediness. The poison of the cobra—perhaps an innocuous substance in the stomach—is eaten by old opium-eaters, and cast-off skin is used for magical purposes, and some say for keeping out vermin. In the district of North Canara, in the taluk of Cumpita, is a place called Naga Tirtha. There is a small well-built tank, around which are small artificial caves containing thousands of serpent images. In almost every village throughout India are to be seen, some beautifully carved, others in the rudest style, figures of the Naga or cobra di capello set up as objects of worship, and two are occasionally represented twining round a rod as in the figures in the mythology of Greece.

In the immediate neighbourhood of Madras, at Trivettor, Washermanpetta, and Perambore, are several snake temples, but one at Vasarapadi is the most famed. There are many sculptured snake stones, either of single snakes or of the two snakes intertwining in the form of the Esculapian rod, called amongst the Tamil people Naga-ga-Jendram, also the Nao-naga, or nine-headed snakes; there likewise are many cobra serpents living in the numerous ant-hills; and every Sunday morning, two or three hundred men, women, and children attend there to worship, to return thanks, to offer milk, raw rice, camphor, the red lead, and cradles. All classes of Hindus come, but Brahman and Vaisya women are the most numerous. There, also, is a local deity named Rangan, whose chief priest, styled Kuri-chuli-kiravin, is a Yenadi.

The temple at Subramaniya, one of the highest peaks of the Western Ghats, is celebrated in the Hindu world. It is a square in form, with open cloisters on the four sides, and the sanctuary containing the idol Subba Itao is in the centre. Like most of the pagodas in Canara, it falls short of those in the Carnatic in point of architecture, but is substantial and neat, being built of laterite, sandstone, and granite. Many reptiles have taken up their residence within it, in holes made for the purpose. People from all directions resort to this sacred place during the December festival, to perform their vows, and make purchases at the extensive cattle fair held at the same time. Such persons as have made vows roll around the quadrangle of the pagoda, while others roll up to the pagoda from a river about a mile distant. These fanatics on their return home bring with them some earth taken out of the sacred holes within the temple. This earth is said to possess the virtue of rendering a barren woman fruitful if she daily puts it into her mouth; and the leper rubs with it the part of the skin affected.

'Snakes,' remarks Viscountess Faulkland, 'are really sensible to the charms of music. Educated snakes, who have been for some time in the hands of a snake-charmer, are of course more susceptible than wild ones. But all have a taste for music, and will pay attention to any rather monotonous tune played on a flute or flageolet. This taste, by the way, is shared by many of the lizard tribe, by some pigeons, and very generally by hedgehogs; at least,' she says, 'I have known three or four instances of it on the part of a hedgehog, kept in the lower storey of a house as

an exterminator of black beetles and cockroaches. If after nightfall, when the hedgehog generally awakes and runs about in search of prey, he heard the sound of a violin or piano, he would always endeavour to make his way to the place whence the sound came, and if admitted into the room where the instrument was, he would stand entranced as long as the music continued.'

In many parts of India, after killing a cobra, the non-Aryan races give it all the honours of a cremation, assuring it, with many protestations, that they are guiltless of its blood, that they slew it by order of their master, or that they had no other way to prevent its biting the children or the chickens. A snake visiting a house is always looked on as a sign of luck; and when a snake discovers how to get at the eggs and milk in the larder, no native will on any account kill what he regards as the good genius of the house.

In Ceylon, the rat-snake's domestication is encouraged by servants, in consideration of its services in destroying vermin. One day Sir J. E. Tennent had an opportunity of surprising a snake that had just seized on a rat of this description, and of covering it suddenly with a glass shade before it had time to swallow its prey. The serpent appeared stunned by its own capture, and allowed the rat to escape from its jaws, which cowered at one side of the glass in the most pitiable state of trembling terror. The two were left alone for some moments, and on his return to them the snake was as before in the same attitude of sullen stupor. On setting them at liberty, the rat bounded towards the nearest fence, but quick as lightning it was followed by its pursuer, which seized it before it could gain the hedge, through which he saw the snake glide with its victim in its jaws.

The land-snakes often enter the water of lakes and tanks, and quest round their borders for frogs and other prey. Hydriac or sea-snakes are venomous. They appear to live on sea-weed. They lay their eggs on the shore, and coil themselves up on the sand. They are found at sea all along the coast, within soundings, and their appearance always marks the approach to land. They are often thrown ashore by the surf, and they are occasionally carried up rivers by the tide, but they cannot live in fresh water. Fishermen greatly dread these snakes. But they are unable to open the jaws widely, and they rarely inflict a wound. Dr. Cantor believes that they are blinded by the light when removed from their own element, and he adds that they become sluggish and speedily die. Those found near the coasts of Ceylon are generally small, from one to three feet in length, and apparently immature, and it is certain that the largest specimens taken in the Pacific do not attain to a greater length than 8 feet. In colour they are generally of a greenish-brown, in parts inclining to yellow, with occasionally cross bands of black.

The tangli snake of Assam causes much anxiety from its fierceness; a pair of them in possession of a bamboo clump in the rear of a house, kept the whole family in a state of great alarm for days. Unable to move about their house but with the greatest precaution, they applied for relief, which was afforded by shooting the pair. The tangli is quite as active in the water as on dry land. Whilst pursuing in a canoe,

over inundated ground, a large deer, it happened to pass one of these snakes, which, when first noticed, must have been at least 30 yards off, but, raising his head, he made for the canoe with such velocity, that though it was paddled by four strong men, it overtook the canoe, and would inevitably have been aboard, if it had not been prevented by a shot.

Snakes breed in captivity. A Russell's viper (*Daboia elegans*), which Dr. Shortt had kept for some seven weeks, measuring $3\frac{1}{2}$ feet in length, on the 30th July 1872 produced thirty-nine young. Each little one measured $8\frac{1}{2}$ inches in length, and one out of these, when about six hours old, in an experiment, killed in ten seconds a young partridge weighing nine and a half tolas, or 1710 grains.

Lady Faulkland mentions the case of a half-witted boy of the wild tribe of Bhils, in Kandesh. He was found by his relations playing with wild snakes, and had the power of attracting and taming them. He had numbers of all kinds of snakes in the jungle, near the hut where his parents lived, and these snakes would come to him and allow him to handle them with impunity. After some months he began to be known to the people round about as a prodigy, but as the part of the country where he lived was very remote, it was long before his fame spread to any distance; and soon after he had been heard of by the Government officials, and official inquiry had been made to an extent sufficient to verify the main facts of the story, the poor boy was bitten by one of his favourites, and died. Another case occurred in the Satara territory about A.D. 1815. It was noised abroad that the son of a Brahman, not far from Waec, had the power of attracting the most venomous snakes, and handling them with impunity. Numbers visited him, and, seeing the story was true, spread his fame; and his relations finding that his reputation was likely to be profitable to them, added all sorts of marvels to the current tales. He was one of the promised avatars of the god Krishna, which are yet to come. He was to restore Hinduism in its purity, and re-establish Brahmanical superiority in the Dekhan. Thousands flocked to see him, and pay their respects, and bring oblations; and so great was the excitement, that the raja of Satara and the English Government officials got alarmed. The poor boy, however, like the Kandesh Bhil, was bitten, and died just when his village had become the point to which every devotee in the Dekhan was hastening, and the excitement subsided as quickly as it arose.

Mr. Fergusson regards tree-worship, in association with serpent-worship, as the primitive faith of mankind. He considers it to be established that wherever human sacrifices existed, there also was the serpent an object of worship; and where they have been most frequent and terrible, as in Mexico and Dahomey, there also has serpent-worship been the typical form of the popular religion. Dahomey is the present chief seat of serpent-worship, where it is now practised with more completeness than anywhere else, and where this most ancient of idolatries may probably have remained from the earliest times almost unchanged. The chief god of the national triad is the serpent, the second the tree god, and the third the ocean. The first of these, called Danh gbwe, has 1000 female votaries,

and is worshipped with all the splendour that savage people can afford. The customs of Dahomey, with their sacrifices of 500 or 600 victims at the death of a king, or of 30 or 40 as an annual slaughter to the honour of ancestors, are here seen in that unaccountable connection with a worship of which they form no part.

The existing influence in India of the snake-worship may be illustrated by mentioning that in Madras, in A.D. 1872, a daughter born to a Brahman gentleman of rare intellect, was named Nagamah, or snake-mother, because a snake was supposed to have been seen at conception.—*Macgillivray's Voyage*, i. p. 66; *M'Cul. in Records*, G. I. F. D.; *Eng. Cyc.*; *Tennent's Ceylon*; *Sharpe's Egypt*, i. p. 59; *Ward's Hindoos*; *Tod's Rajasthan*, i. p. 535; *Forbes, Ratanala*; *Davy's Ceylon*; *Williams' Story of Nala*; *Taylor's Hind. Myth.*; *Lubbock's Origin of Civil.*; *Moor's Pantheon*; *Spanheim*; *Milner's Seven Churches of Asia*; *Cunningham's India*; *Frere's Antipodes*; *Fytche, Burma*; *Mason's Burma*; *Bunsen's Egypt*; *Fergusson's Tree and Serpent Worship*; *Mrs. Hervey, Lady in Tartary*; *Travels in Mexico*; *Darwinism in Morals*, p. 199.

SERRANUS, a genus of fishes of the family Percidæ. Several species occur in the Eastern seas. Those about Macao are called shilipan and garoupa.

SERRAO. Joao Serrao and Odoardo Barbosa, officers of Magellan's fleet, who were elected to the joint command on the death of Magellan, who was slain by the natives at one of the Philippines. Serrao was an old Portuguese, on whose knowledge of the east, and especially of the Moluccas, Magellan placed great reliance. On Serrao's death, Carabello was elected commander-in-chief.

SERRATULA ANTHELMINTICA. Roxb.

Vernonia anthelmintica, Linn.

Blue fleabane, . . .	ENG.	Nalwa bakshi, . . .	HIND.
Worm saw-wort, . . .	"	Kali-jiri, Bakshi, . . .	"
Somraj, Sumraj, . . .	HIND.	Kakshama, . . .	SANSK.

All parts of this plant are bitter. The powdered seeds are used as a worm medicine. Dr. Honigberger, at p. 261, states that *Conyza anthelmintica*, *Vernonia anthelmintica*, *Serratula anthelmintica* are officinal at Lahore. It is said that when the fleabane is roasted, flies take to flight, and when the powder of the fleabane is sprinkled on the floor, fleas disappear. It acts as a bitter tonic and anthelmintic, and is recommended in the treatment of skin disease, especially in porrigo and lepra.—*O'Sa*, p. 419; *Powell*.

SERTIP comes from Ser and Tip, a clump of spears; Tope, a clump of trees; Tepe, a heap of earth.—Sanskrit root.—*Ed. Ferrier's Journ.* p. 36. See Tope.

SERVAKAREN, meaning captain, is a title of the Idaar or pastoral race in the southern districts of the Tamil country.

SERWATTY ISLES, or Sea-way Isles, in the Eastern Archipelago, consist of Wetta, Kissa, Lette, Moa, Roma, Nusa, Midka, Danima, Lakor, Luan, Baba, Semata, Zeon, and Nila, etc. They are situated a little to the S.W. of Timor, directly N. of Cambridge Gulf in New Holland. They extend about 105 miles in an easterly direction, from the east end of Timor towards the south end of Timor Laut, in the Arafura Sea.—*St. John's Arch.* ii. p. 87; *Earl in Journ. Ind. Archipelago*.

SESAMUM INDICUM.

SESBANIA.

SESAMUM INDICUM. Linn.

S. orientale, Linn.	S. luteum, Retz.
S. trifoliatum, Mill.	S. laciniatum, W.
Jyl-jylau, Duhu, . . . ARAB.	Shitelu, . . . MALEAL.
Hnan, Hnan-ma, . . . BURM.	Kunjed, . . . PERS.
Wull-ellu, Yellu, . . . CAN.	Tila, . . . SANSK.
Ku-shing-taze, . . . CHIN.	Tel-tala, . . . SINGH.
Chi-ma,	Tun-pat-tala, . . .
Semsem, EGYPT.	Benjam, . . . SUMATRA.
Sesamon, GR.	Yelloo, Yelloo-chedi, TAM.
Til, Krishna-Til, . . . HIND.	Nuvu, Nuvulu, . . . TEL.
Kala-Til, Safed-Til, . . .	Banglo, . . . W. INDIES.
Barik-Til,	

The Oil, Gingelly Oil.

Jiritch, ARAB.	Manchi noonay, . . . TEL.
Mitha tel, Til ka tel, HIND.	Kurit, Sehuk, . . . ?
Nal-yennai, TAM.	

There are two strongly-marked varieties of this plant under cultivation, — black sesamum and white or yellow or red sesamum, which possess the same properties, and in commerce are met with both in a mixed and separate state. It is an annual plant growing all over India, but both are cultivated there, also in China, Egypt, the Levant, W. Indies, and S. America. In a good soil it grows generally to be about three or four feet high. In the Dekhan, it is a common plant springing up in waste places, and flowering towards the close of the rains. The white variety is sown in Bengal in February, and the crop got in three months afterwards, so that the dew and the little remaining moisture of the earth are the only sources of humidity by which it can benefit, as this is generally a period of drought. The black variety is sown on high places, about the beginning of the rains (July), and the crop cut down in September.

First sort gingelly, in the Northern Circars, is the produce of the plant, which is sown in the month of March, after the rice crop, and is irrigated twice, once at sowing and once afterwards. The seed is black, and is called first sort gingelly from its yielding the largest percentage of oil; it ripens in May, and the seed sells at the rate of Rs. 60 per candy of 500 lbs. The oil obtained from both varieties sells at the same price, viz. Rs. 1.5 to Rs. 6 per maund of 25 lbs., according to quality and locality.

Second sort gingelly, of the Northern Circars, is sown in June, and produces a red seed. The plant, although a little larger, resembles in most respects the former; it has, however, a somewhat longer leaf, and the flower differs a shade or two in colour. A candy of 500 lbs. of this seed sells at Rs. 57-8. The price of the oil is the same as that of the first sort. About A.D. 1845 this seed began to be exported to France, in consequence of which the price doubled.

The black-seeded variety has a deep red or deep rose-coloured blossom; while the flower of the white-seeded variety is of a pale-purple or whitish-rose colour.

The seeds are slightly oval, small, tasteless, and inodorous, are sometimes added to broths, frequently made into cakes by the Jews in the east. It is about the same size as mustard seed, only not round. The expressed oil is as clear and sweet as that from almonds, and probably the Behens oil, used in varnish, is no other. It is called by the Arabs Jiritch, and the seed Bennie in Africa. In Mysore, after being cut, it is stacked a week, then exposed to the sun for three

days, but gathered into heaps at night; and between every two days of such drying it is kept a day in the heap. By this process the pods burst and shed their seeds without threshing. Any disparity of colour observed in this oil is to be attributed to the mode of preparation. The method sometimes adopted is that of throwing the fresh seeds, without any cleansing process, into the common mill, and expressing in the usual way. The oil thus becomes mixed with a large portion of the colouring matter of the epidermis of the seed, and is neither so pleasant to the eye, nor so agreeable to the taste, as that obtained by first repeatedly washing the seeds in cold water, or by boiling them for a short time, until the whole of the reddish-brown colouring matter is removed, and the seeds have become perfectly white. They are then dried in the sun, and the oil expressed as usual. This process yields 40 to 44 per cent. of a very pale straw-coloured, sweet-smelling oil,—an excellent substitute for olive oil.

In India the oil is chiefly used in cookery, in anointing the person, for making soap, and for burning in lamps. In England it is chiefly used for the manufacture of soap, and for burning in table-lamps, for which it is better suited than coconut oil, owing to the lower temperature at which the latter congeals. The value in England is about £47, 10s. per ton. In Egypt, India, Kashmir, China, and Japan it is used both for cooking and burning. It will keep for many years and not acquire any rancid smell or taste, and in the course of a year or two becomes quite mild, so that when the warm taste of the seed, which is in the oil when first expressed, is worn off, it is used for all the purposes of salad oil. If divested of its mucilage, it competes with olive oil. It is sufficiently free from smell to admit of being made the medium for extracting the perfume of the jasmine, the tuberosa, narcissus, and of the yellow rose. The process is managed by adding one weight of flowers to three weights of oil in a bottle, which being corked is exposed to the rays of the sun for forty days, when the oil is supposed to be sufficiently impregnated for use. Gingelly oil is used in India to adulterate oil of almonds. The flour of the seed, after the oil is expressed, is used in making cakes, and the straw serves for fuel and manure. The oil is much used in Mysore for dressing food, and as a common lamp oil. It is largely cultivated in Tenasserim by the Karen, who bring the seeds to market and sell them to the Burmese, and they express the oil. The Negroes cultivate it for food, using the parched seeds with their meals. In Arabia the oil (Jiritch, ARAB.) is much used as an article of diet, for frictions, and lighting. The oilcake, mixed with honey and preserved citron, is esteemed a luxury. The leaves of the plant are used as poultices.—Voigt; Riddell; Rozb.; M.E. of 1856; Eng. Cyc.; Ag. Rep. for 1854 of Com. Patents, p. 226; O'Sh.; Gen. Med. Top.; Ainslie; Malcom's Travels.

SESARMA, the genus of painted crabs. S. tetragona, Edw., Indian Ocean; S. Indica, Edw., Java; S. quadrata, Edw., Pondicherry.

SESBANIA, a genus of plants of the natural order of Leguminosæ, which derives its name from the Arabic name of S. Ægyptiaca, indigenous in Egypt. S. procumbens, W. and A., and S. uliginosa, are plants of Bengal. See Agati.

SESBANIA ACULEATA. *Pers., W. and A.*

<i>S. Cochia-Chinensis.</i>	<i>E. cannabina, Roxb., Ken.</i>
<i>Æchynomene spinulosa, Roxb.</i>	<i>E. bispinosa, Jacq., Willd.</i>
	<i>Coronilla aculeata, Willd.</i>
<i>ayanat, BENG.</i>	<i>Brihatchakramed, SANSK.</i>
<i>Dhanicha, Dunchi, HIND.</i>	<i>Erra jiluga, TEL.</i>

This hardy plant grows in the two Indian Peninsulas and Bengal, growing rapidly from 6 to 10 feet high; and is considered an ameliorating crop. About 30 lbs. of seed is allowed to the acre. It may be sown in poor, low, wet soil, without preparation. The fibres are from 6 to 7 feet long, but unless cut at a very early period, they are coarser and more harsh than hemp. In Bengal, the fishermen make drag-ropes for their nets, on account of its strength and durability in water. It was valued in England at £35, and would probably always fetch £30 to £35. It is an excellent fibre for common cord and twine purposes, and certainly superior to jute in strength and durability.—*Roxb. iii. p. 332.*

SESBANIA ÆGYPTIACA. *Pers.*

<i>Æchynomene sesban, L.</i>	<i>Var. a. Sesbania bicolor.</i>
<i>Æsch. Indica, Burm.</i>	<i>Var. b. Sesbania concolor.</i>
<i>Coronilla sesban, Willd.</i>	
<i>Buro-janti, Juyanti, BENG.</i>	<i>Kadangu, MALEAL.</i>
<i>Yæ-thoo-gyee, BURM.</i>	<i>Jyantika, SANSK.</i>
<i>Juyantee, Jaint, HIND.</i>	<i>Karun chembai, TAM.</i>
<i>Jaith, "</i>	<i>So'minta, TEL.</i>

A very elegant, rapid-growing shrub or small tree of Ceylon and British India, suitable for hedges. The var. *S. bicolor* has orange flowers and a vexillum purple on the outside, while the var. *S. concolor* has a vexillum yellow speckled with black dots and lines. It is used as a substitute for the bamboo; its wood makes excellent gunpowder charcoal, and its leaves are used as a cataplasm to promote suppuration. Commonly cultivated in gardens as a hedge, and for its bunches of flowers, particoloured, yellow, and occasionally white. It is a ready and quick grower, and the wood sometimes attains 2 feet in girth.—*Roxb.; Mason; Voigt; Stewart.*

SESHA or Seshu-naga, in Hindu mythology, a great serpent with a thousand heads. He is very variously represented, sometimes as Ananta, the endless, eternity, sometimes distinct from, sometimes the same as, Vasuki. Seshu is sometimes represented as supporting the world, sometimes upholding the seven Patalas, king of the serpent Naga race, and of the lower regions called Patala. He is fabled to have aided Nanda to cross the Jumna when flying with the infant Krishna, and to have persuaded the king of the Naga race to give the jewel which was to restore Arjuna to life. It has probably some untraceable connection with the Scythic-Naga race. It was the serpent Seshu under the shade of whose hood, while resting on the Chira Samudra or Sea of Milk, that Vishnu reposed for four months, and Vishnu reposes on Seshu in the intervals intervening between one calpa and another creation or formation. It was Seshu that the Sura and Asura used as a thong around Mount Mandara when churning the Sea of Milk to recover the lost 14 products, viz. Amrita, Dhanwantari, Lakshmi, Sura, Chandra, Rambla, Ucharavas, Kaustubha, Parijata, Surabhi, Airavata, Sankha, Dhanus, and Visha. Seshu's hood is called Mani-dwipa, island of jewels; his palace Mani-bhitti, jewel-walled, also Mani-mandapa, jewel-palace.

SES-NAG or Saisu-naga, a dynasty who

reigned 360 years, and we find amongst them, B.C. 415, Nanda, Mahapadma (B.C. 1602, Jones; 364, Wilson), regarding whom it was said he will bring the whole earth under one umbrella; he will have eight sons, Sumalya and others, who will reign after Mahapadma. He and his sons will govern for 100 years. The Brahman Kaulilya will not root out the nine Nanda. See Magadha.

SESOSTRIS. About 900 years after the deluge, and previous to the destruction of Troy, Sesostris, king of Egypt, started the brilliant idea which M. de Lesseps in A.D. 1869 worked out satisfactorily. The Egyptian monarch caused a canal to be cut from the Red Sea to a branch of the Nile, and had ships built for carrying traffic, but for some reason or other the enterprise did not succeed, possibly because the canal was not made deep enough, or because it was connected merely with a branch of the Nile instead of the main stream. He is said to have sailed through Bab-ul-Mandab, and to have founded a colony, to check the irruptions of the Scythian hordes. See India.

SET. MAHR. Arable land in and around a village.

SETH, Sethi, Set, Sete, Setti, Shet'h, Chetty, and Chettiar are variations of the same Sanskrit word, and are applied reverentially to many of the races engaged in trade or financial transactions, to the Zoroastrian Parsee, the Muhammadan Bora, and to Hindus in the north and south of the Madras Presidency, engaged as bankers, merchants, and shopkeepers; to the Gajoola balija, bangle makers; the Vaniar, oil-pressers; the Ela Vaniar, cloth merchants; Komati, grocers and general dealers. In the Tamil country, it is allowed to the Nattoo-Kottayar, keen, enterprising general merchants, and to the Kusaven or potters. Set is a primeval name of God.—*Buns. iv. p. 33.*

SETH, fourth son of Adam. See Abu-kubays.

SETHA-PATI, Lord of the Causeway, a title of the chief of Ramnad, who protects the road to Ramisseram.

SETHIA ACUMINATA. *Arn.* Batta-kerillagas of the Singhalese. A Ceylon tree in the Ambagamowa and Saffragam districts, at an elevation of 1000 to 2000 feet.—*Thw.*

Sethia Indica, *D. C.*

Erythroxylon monogynum, *Roxb.*

<i>Deodaru, DUKH.</i>	<i>Devadaram, TAM.</i>
<i>Sembu linja maram? TAM.</i>	<i>Thavadaram, "</i>
<i>Sembu-linga maram? "</i>	<i>Adavi gorenta, TEL.</i>
<i>Simi natti, "</i>	

A small tree of the drier parts of Ceylon, with timber resembling sandal-wood, which takes a good polish. An empyreumatic oil or wood-tar, used for preserving timber employed in the construction of native boats, is obtained from the wood.

Sethia lanceolata, *Wight*, a Ceylon tree growing on the banks of streams at Galagama, at an elevation of 2000 to 3000 feet.

Sethia obtusifolia, a tree of the central province of Ceylon, growing at an elevation of 2000 to 4000 feet.—*Thw.; Roxb.; Wight; Ainslie.*

SETHU, a former name of the island or peninsula of Ramisseram was The Bridge or Causeway, from which the chiefs of the adjoining territory of Ramnad or Marawa derived their title of Sethu-pati or Lord of the Bridge, and perhaps

this name is disguised under the form Sitia.—*Yule, Cathay*, i. p. 218.

SETIPINNA, bristle-finned sprat, a small fish of the herring tribe; two species in Burma seas. A long filament or bristle is attached to each pectoral fin. Both species are often called sprats by Europeans, and they belong to the same tribe.

SETODES, a genus of the family Leptoceridæ; the caddis-worm insects.

SEV. MAHR. A portion deducted from fruit, flowers, or vegetables brought to market; an octroi.

SEVA or Siva-desa-paradhi, the circumference of a circle of longitude in any point on the globe of the earth, removed from the equator, or, as Europeans would say, which has latitude. The degrees of these small circles of the sphere are taken by the Hindus to be in the direct ratio of the cosines of the latitudes, and dissolved into assignable quantities from the dimensions of the equatorial circle, which they take to contain 5059 yojana. Siva-desa-madhya-paradhi is the circumference of the terrestrial equator. Siva-desa-wydia is a term (it seems obsolete) for the oblique ascension of a planet. This element is important in the resolution of all gnomonic problems, and for fixing the longitude of places.—*Capt. E. Warren's Second Memoir*, p. 90.

SEVEN is a frequently recurring quantity in the social and religious customs of several races. Amongst the Chaldeans it seems to have had its origin in the seven-day periods of the lunar changes, but there are other septenarian numberings not reconcilable by this astral system. Amongst the Egyptians were the seven Kabiri genealogies. The race of Kronos and Rhea had seven sons, the seven primeval forces of the visible creation, perhaps identical with the seven Pleiades. The race of Kronos and Baaltis had seven daughters, not supposed to be connected with the Tartars. The Jewish records write of 7, 70 times 7, and 7000. There were seven worlds; in Persia, seven climates; in Hinduism, seven Patala or hills; in Arabia, seven states or degrees; with Muhammadans, seven heavens; with the Parsees, seven Amshaspendis; Rama, with an arrow, pierced seven palm trees. There are seven steeds of the sun, seven Muni or Rishi, seven spheres, seven seas, seven continents, and seven mothers of the gods.—*Bunsen*.

SEVEN PAGODAS, an interesting series of monolithic temples, 34 miles south of Madras, by the natives called Mahabalipuram, the city of the great Bali. Here is the spot where the haughty Kehama and Lornuite the enchantress imprisoned the Glendover.

'The sepulchres
Of the ancient kings, which Baly in his power
Made in primeval times; and built above them
A city, like the cities of the gods,
Being like a god himself. For many an age
Hath Ocean warr'd against his palaces,
Till overwhelm'd they lie beneath the waves,
Not overthrown, so well the awful Chief
Had laid their deep foundations.'

The traditional character of Bali was in some respects not unlike the poet's representation of the great raja Kehama. Like Kehama, the giant Bali had nearly raised himself to a dominion over the lower gods; like him, he had nearly driven the Devata from heaven, and seized for himself the Swarga throne,—when Vishnu became incarnate

in the form of a Brahman dwarf, and humbled the giant to the dust. Unlike Kehama, however, Bali repented and humiliated himself before the deity, and the old tradition is well told by Southey, who says—

'Their talk was of the city of the days
Of old, earth's wonder once, and of the fame
Of Baly its great founder . . . he whose name
In ancient story and in poet's praise,
Liveth and flourisheth for endless glory,
Because his might
Put down the wrong, and aye upheld the right,
Till for ambition, as old sages tell,
At length the universal monarch fell;
For he too, having made the world his own,
Then in his pride, had driven
The Devatas from heaven,
And seized triumphantly the Swarga throne.
The Incarnate came before the Mighty One,
In dwarfish stature, and in mien obscure;
The sacred cord he bore,
And ask'd, for Brahma's sake, a little boon,
Three steps of Baly's ample reign, no more.
Poor was the boon required, and poor was he
Who begg'd, . . . a little wretch it seem'd to be;
But Baly ne'er refused a suppliant's prayer.
He on the dwarf cast down
A glance of pity in contemptuous mood,
And bade him take the boon,
And measure where he would.
Lo, son of giant birth,
I take my grant! the Incarnate power replies.
With his first step he measured o'er the earth,
The second spann'd the skies.
Three paces thou hast granted,
Twice have I set my footstep, Vishnu cries;
Where shall the third be planted?
Then Baly knew the god, and at his feet,
In homage due, he laid his humble head.
Mighty art thou, O Lord of Earth and Heaven!
Mighty art thou! he said;
Be merciful, and let me be forgiven.
He ask'd for mercy of the Merciful,
And mercy for his virtue's sake was shown.
For though he was cast down to Padalon,
Yet there, by Yamen's throne,
Doth Baly sit in majesty and might,
To judge the dead, and sentence them aright.
And forasmuch as he was still the friend
Of righteousness, it is permitted him,
Yearly, from those drear regions to ascend,
And walk the earth, that he may hear his name
Still hymn'd and honour'd by the grateful voice
Of all mankind, and in his fame rejoice.'
See Mahabalipuram.

SEVEN WISE MASTERS, or the Book of Sandabad, an ancient book of fables, that found its way from India to Europe.

SEVERNDRUG, a low island off the coast of Konkun, in lat. 17° 47½' N., and long. 73° 5' E. Severndrug Fort, on the small island, is 8 miles north of Dubul and 10 miles S.S.E. of Bankot. It was one of the Mahratta forts erected in 1662. It is connected with the shore by a reef of rocks. Connji Angria took it from the Mahrattas when he revolted, as also three forts on the mainland; but in March 1755 all these were retaken by Commodore James, and restored to the Mahrattas.—*Orme; Findlay*.

SEWAR. MAHR. From Seo, a boundary; the entire lands of a village.

SEWARA, a Saiva Hindu sect in Berares, mentioned by Mr. Sherring, who affect great sanctity, but eat with Hindus and Muhammadans. They let the beard grow, smear their bodies with cow-dung ashes, wear the gerua-vastra or ochre-yellow cloths, and some are celibates.

SEW-TSAE. CHIN. The first educational

degree, equivalent to B.A., and meaning 'adorned talent.'

SEXTANT. The eastern navigators' sextant consists of a small rectangular thin board or piece of teak-wood, measuring $3\frac{1}{2}$ inches long by $2\frac{1}{4}$ inches broad, and is about $\frac{1}{16}$ inch thick. Through the point of intersection of the diagonals a fine cord is passed. The small rectangular board is held firmly in the left hand, while the cord from its centre is stretched from it to the eye, where the fingers of the right hand are held. As this cord, or the distance from the eye to the small rectangular board, is increased or diminished, so is the angle subtended by the opaque board lessened or enlarged. Marks or notes on the circle record the results of the observations. The principle in optics upon which the use of this simple instrument depends is, that the latitude of any place is, roughly, the same as the angle of elevation above the horizon of the polar star, and that any opaque object held vertically before the eye subtends an angle, which varies inversely as the distance of the object from the eye. If this distance be constant, and the size of the opaque object constant, the angle subtended by it must be constant also. By this simple instrument Asiatic coasters are generally guided.

SEYCHELLES ARCHIPELAGO consists of 29 islands, 700 miles N.N.E. of Madagascar, rising over a shallow sub-marine bank of coral and sand 100 fathoms deep. The larger islands are of granite, with mountains rising from 1000 to 3000 feet. They were discovered in A.D. 1502 by Vasco di Gama, but were first taken possession of in 1742 while Mahé de la Bourdonnais was governor of Mauritius. They are the nearest habitable land to Zanzibar and East Africa, Northern Madagascar, and the Suez Canal collectively. They lie about midway between Aden and Mauritius and Reunion. The island of Mahé is about 19 miles long by 6 miles wide. It has 10,000 inhabitants. It has a cathedral and chapels and schools. There are many cascades and limpid pools among the rocks. The two best harbours are Fort Victoria at Mahé, and Curieuse Bay at Isle Curieuse. The Aldebra Islands, near North Madagascar, have an extraordinary lagoon, where the giant land tortoise (weighing from 500 to 1000 lbs.) rules in almost impenetrable jungles. The Seychelles are the only locality where the celebrated coco-de-mer (*Lodoicea Sechellarum*), the Seychelle or double cocoanut tree, is found. This graceful palm attracts the stranger's attention on landing at Mahé, where several may be seen in the centre of the town. The *Stevensonia* and *Verschaffeltia* of the Seychelles are both eminently suited for decorative purposes; the former is spoken of in a horticultural journal as *Roi de la Famille*, the second as its worthy rival, *tant par le majesté de son port que par la richesse du feuillage*.

SGAU are found from Mergui in lat. 12° N. to Prome and Tounghoo in lat. 19° N.; a few have passed westerly into Arakan, and on the east they have wandered to the east of Zimmay over the watershed that separates the Meinam from the Selwin. They are the most numerous of all the Karen tribes. They wear a white coat, with a few horizontal bands of a red colour near the bottom, and from this they are called White Karen. Where the population is sparse, they

cultivate the most favourable spots, first, before hewing down the trees, abjuring the departure of all evil, and then dibbling in the rice seed, which they do not sow broadcast like the Burmese; planting also cotton, capicum, Indian corn, and Job's tears between the rows. They also fish largely, for they eat all creatures, lizards, snakes, deer, wild hog, elephant, rhinoceros, wild ox, buffalo; they gather the wild cardamom, and wash for tin. They have no mechanical art, but some of the women weave and embroider. Their betrothals are in infancy, and the married couple early associate, but there are frequent separations. All the Sgau and the Pwo burn their dead, but a bone is taken from the ashes, and in the dry season it is buried, with a festival, with music and dancing. The bone is placed in a booth, and around it the articles belonging to the deceased are hung, with a torch at the head and another at the foot to represent the morning and evening stars. The Sgau Maunepgha occupy the hills between the Youk-tha-wa and Meet gnan creeks; their dialect is different from the Sgau.

SGURMA, a sweetmeat of Little Tibet, made from sprouting wheat, dried, pounded, and boiled, and the strained liquor added to almond or apricot oil.

SHA, TIBETAN, *Ovis montana*, of Ladakh, browses in large flocks on the left bank of the Indus below Leh. It is of the size of a stag, with large wiry hair of a reddish-brown colour on the back, gradually changing to white on the stomach. The chest is covered with a long fringe of dirty black hair. Its horns are massive, and touch at their bases.

SHAB. PERS. Night. Shab-Bedari, watching all night, vigil, repeating marseca, elegies, etc. Shab-Gasht, nocturnal perambulation, a ceremony practised by the Muhammadans in India on occasions of marriages, circumcision, etc. Shab-i-Barat, or night of record, a Muhammadan religious festival, held on the eve of the 14th of the month Shaban; it is a solemn vigil, with fasting and prayers and illumination. In Northern India lamps are lit, and prayers are said in behalf of deceased ancestors, and the Koran read. Muhammadans believe that the actions of men and their fate for the ensuing year are recorded on this night.—*Herk*.

SHABAN, the eighth month of the Muhammadan year; also a feast, called the Shaban feast of Shab-i-Barat, on the 14th day of that month.

SHABGEZ. Every caravansary and halting-place between Daghlan and Sharud is infested with a bug of this name. Its venomous bite is well known to travellers; it causes severe illness. *Ferrier's Journ.* p. 76.

SHAB-NAM. HIND. A fine kind of Dacca muslin, literally night-dew.

SHAD-ANGA. SANSK. Six subjects necessary to be studied for the reading, understanding, and proper sacrificial employment of the Vedas, viz. Siksha, phonetics; Ch'handas, metre; Vyakaraṇa, grammar; Nirukta; Jyotisha, astronomy; and Kalpa or ceremonial, known as the Kalpa sutra or Śrauta sutra.—*Dowson*.

SHADDOCK, also Pumplemose and Pummalo. Hiu, Yu, CHIN. *Citrus decumana*, *Linn.*, cultivated in the East and West Indies for the sake of the subacid, juicy pulp with which the fruits abound. The larger are called pompleon; the smaller form the forbidden fruit of the English

markets. It was named after Captain Shaddock, R.N., who introduced it into the West Indies. It is the Hiu or Yu of the Chinese, and has been cultivated since the time of the great Yu, who mentions it in his tribute roll. It flourishes near Amoy, and much pains are taken in grafting the tree upon other species of citrus, so that the character of the fruit has been greatly improved. Its peel is bitter, but aromatic.—*Smith; Faulkner.*

SHADEE. HIND. Lit. rejoicings, marriage. In British India, the most respectable form of Muhammadan marriage. It is not the Muhammadan binding form; that is the Nickah.

SHADUK. HIND. Six-lettered. On Ma-ne Pad-mi Hou is styled a six-lettered mantra, Shaduk shari mantra.—*Hooker's Him. Jour.*

SHAEBE, pl. Shaeban. ARAB. Flat rocky banks in the Red Sea, which rise to the surface of the water, but are always covered by it. Shab or Shaab is a reef.

SHAFI, a commentator of the Koran, who is one of the four learned doctors of the Muhammadan faith, the others being Abu Hanifa, Ibn Hanbal, and Al Baidawi. Each of these gave rise to the schools which bear their respective names. Shafi was born at Gaza in Palestine A.D. 767–68, A.H. 150, and he died in Egypt A.D. 820, A.H. 204, nearly 52 years old.

SHAGOO or Abir. HIND. A red powder scattered about by Hindus during their holi festival, made of the flour of *Curcuma zedoaria*, tinted with the powder of *Cæsalpinia sappan*.

SHAGREEN.

Chagrin, FR. | Schagrim, RUSS.
Schagrin, GER. | Schagren,

It is an oriental manufacture of leather, and the method of preparing it was long kept secret. It is employed in the manufacture of small cases and boxes. The leather is prepared in Poland, Astracan in Russia, and various parts of the Levant. Shagreen differs from leather in not being tanned or tawed. It bears some resemblance to parchment, but the grain or hair side is granulated or covered with small round rough specks. It is said to be prepared from the skins of horses, wild asses, and camels, those portions being preferred which cover the chine. The fillets of skin are steeped in water until the hair is sufficiently loosened to be scraped off; the skins are then stretched upon a board, and are unhaired and fleshed with a knife. Each fillet is then stretched in a frame, as in the preparation of parchment, and is moistened from time to time and gradually distended. While still moist, the grain or hair side is sprinkled over with the seeds of a kind of *Chenopodium*; they are hard, of a shining black colour, and about the size of poppy seed. These seeds are forced into the surface of the skin by the pressure of the feet or by means of a simple press, a piece of felt or thick stuff being laid over the seeds. In this state the skin is left to dry in the shade, and when the seeds are shaken out by beating the skin, the surface of the latter is pitted with small hollows corresponding with the forms of the seeds. The skin is now stretched on an inclined plane by attaching its upper end to hooks, and fastening weights to its lower end; it is thinned off with a half-moon knife, care being taken not to cut so far as the bottom of the little pits occasioned by the seeds. On macerating the skins in water, they swell, and

they become prominent over the shaven surface. The process is completed by steeping the strips in a warm solution of soda; salt brine is then used, and the skins are ready for the dyer.—*Tomlinson; McCulloch.*

SHAH. HIND., PERS. A king, also royal. The Sikhs also applied this title to their founder, Shah Nanak, whom also they style Nanak Narinkar, Nanak the Omnipotent. Shah is the equivalent of the Arabic and Turkish Sultan. Shahin-shah is an emperor. Shah was the reigning title taken by the emperors at Dehli, descendants of Baber, known to Europe as the Grand Moghul. It is also assumed by the sects of fakir or dervesh, as Madar-Shah, etc., addressed as Shah Sahib; but the Dehli emperors sometimes prefixed it, adding Padshah, as Shah Alam Padshah. The names of women of the Syuds sometimes end with Shah, sometimes begin with it, as Shah-ji-Begum. Shah-Bandar, a harbour-master, a governor. The Gond converts to Muhammadanism add Shah to their names. Shah-Zadah, a prince; Shahi, royalty; Shah-bash, bravo.

SHAH, cultivators of Bengal. They are a section of the Suri or spirit sellers.

SHAHABAD, a district lying between lat. 24° 31' and 25° 43' N., and long. 83° 23' and 84° 5' E.; area, 4385 square miles, and 1,723,974 inhabitants in 1872. Its chief rivers are the Ganges and Son, with a series of canals from the Son. Aboriginal tribes are represented principally by the Bhars or Rajbhars, of whom there are 5679, and the Karwars, who number 5673. Among the low castes or semi-Hinduized aborigines, the most numerous are the Chamars, shoemakers and workers in leather, of whom there are 91,777. The Bhars claim to be Purihar Rajputs, and at one time occupied a large part of the district. They are now almost entirely confined to the Buxar subdivision, and are one of the most degraded races, most of them being swineherds; the Dosadhs (77,927), many of whom serve as village watchmen. Of the higher classes of Hindus, Brahmans number 198,631, and Rajputs 185,652. The Koeris, the chief cultivating caste of the district, number 130,394. The town of Arrah in this district is invested with a special historical interest, as being the scene of a stirring episode in the mutiny of 1857. A small body of Europeans held Arrah for eight days, till relieved by Major Vincent Eyre. On the 2d August, before sunset, the siege was at an end, and on the following morning the gallant garrison welcomed their deliverers, Major Vincent Eyre, with 150 men of the 5th Fusiliers, a few mounted volunteers, and 3 guns, with 34 artillerymen. Major Eyre had dispersed Kuar Singh's forces on his way to Arrah, and they never rallied.—*Imp. Gaz.* vii.

SHAHAB-UD-DIN GHORI, the first Muhammadan emperor of India, ascended the throne of Ghazni (A.D. 1192, A.H. 599) on the demise of his brother Ghiyas-ud-Din Ghori. He had, however, conducted the military operations from the accession of Ghiyas-ud-Din (A.D. 1157, A.H. 552), and latterly also had carried on the active duties of the civil government. The two brothers had defeated their uncle, who was governor of the principality of Bamian, and they reduced the eastern parts of Khorasan. In A.D. 1176, A.H. 572, Shahab-ud-Din took Uch at the fork of the

Indus and Panjab rivers. In two expeditions to Lahore (A.D. 1178, A.H. 574) he broke the strength of Khusrū Malik, the last of the Ghaznavi. His next expedition (A.D. 1178, A.H. 575) was to Sind, which he overran to the sea-shore. On his return he had again to subdue Khusrū Malik, who had allied himself with the Ghakkar tribe. Khusrū and his family (A.D. 1786, A.H. 582) were sent prisoners to a castle in Ghirjiathan, where, many years afterwards, they were put to death by one or other of the contending parties during the war with the king of Khorasan. Shahab-ud-Din's next efforts were against the Rajput Hindus. Shortly before his time, the four great kingdoms, Dehli, Ajmir, Kanouj, and Gujerat, combined, and his first battle was A.D. 1191, A.H. 587, with Prit'hi, raja of Dehli and Ajmir; but Shahab-ud-Din was wounded, and his army signally routed between Tanesar and Karnal at Tirouri, and was pursued for forty miles. He returned to India A.D. 1173, A.H. 589, with an army of Turk, Tajak, and Afghan, and was again met by Prit'hi with a vast army, swelled by the union of the forces of other Hindu princes whom Prit'hi's former success had attracted to his support. For a time the result was doubtful; but Shahab-ud-Din, seeing the Hindu troops advancing in disorder, charged them at the head of 12,000 chosen horse, and the great Hindu army was lost in its own ruins. The viceroy of Dehli and many other chiefs fell on the field, and Prit'hi raja was taken in the pursuit, and put to death in cold blood. After this victory, Shahab-ud-Din took Ajmir, put some thousands of the inhabitants to the sword, reserving the rest for slavery, and made over the country to a relation of Prit'hi, and returned to Ghazni, leaving Kutub-ud-Din Aibak as his viceroy in India. Kutub-ud-Din took Dehli and Koel. Next year (A.D. 1194, A.H. 591), Shahab-ud-Din returned to India, defeated Jya Chandra, raja of Kanouj, in a battle on the Jumna, north of Etawa, and took Kanouj and Benares. Shahab-ud-Din went back to Ghazni, but next year returned to India (A.D. 1195, A.H. 592), took Biana, west of Agra, began the siege of Gwalior, which fell to Kutub-ud-Din after Shahab-ud-Din's return to Ghazni. Kutub-ud-Din took also the forts of Kalinjar and Kalpi in Bundelkhand; Muhammad Bakhtiar Khilji conquered Oudh, N. and S. Behar, Gour or Luknouti, and Bengal; and Shahab-ud-Din was engaged in contests with the king of Kharizm. He was between Tus and Serakhs in Khorasan when he heard of his brother's death (A.D. 1202, A.H. 599), and returned to Ghazni to take possession of the throne.

After his accession he moved (A.D. 1203, A.H. 600) against Khorasan, and at first obtained some success; but the king of that country obtained the aid of the Khitan Tartars, and Shahab-ud-Din destroyed his baggage, and retreated to Andkhui, where he surrendered on condition of being allowed to depart on payment of a sum of money. On this defeat and the ruin of his death, Taj-ud-Din Eldoz, one of his favourite slaves, shut the gates of Ghazni against him; another chief seized on Multan; the Ghakkar took Lahore, and devastated the whole province; but Kutub-ud-Din remained faithful in India, as also did Herat and other western countries, where three of his nephews were governing. Shahab-ud-Din recovered Multan, received the submission of

Ghazni, and pardoned Eldoz, and afterwards, in concert with Kutub-ud-Din, recovered the Panjab, and induced the Ghakkar to become Muhammadana. He set out on his return to his western provinces, but when encamped with his tent pitched close on the bank of the Indus, a band of Ghakkars at midnight swam the river, and despatched him with numerous wounds, on the 14th March 1206, or 2d Shaban 602 A.H. His body was conveyed in mournful pomp to Ghazni, and his nephew Mahmud succeeded, and reigned till A.D. 1215. Shahab-ud-Din left prodigious treasures. His conquests in India far surpassed those of Mahmud. He was an enterprising soldier, but had neither the talents nor prudence of that great prince, and his name is scarcely known beyond the countries over which he ruled. He had no son, but brought up several Turki slaves, of whom Kutub-ud-Din Aibak ruled in India, Taj-ud-Din Eldoz at Ghazni, Nasir-ud-Din Kubachi in Multan and Sind, and Altamsh was another rising slave. Kutub-ud-Din Aibak ruled in India independently for four years till A.D. 1210, A.H. 607, but he had been conducting the military operations there during the reign of Shahab-ud-Din Ghorī. He had been brought to Nishapur in his infancy, and purchased by a wealthy person, who had him instructed in Persian and Arabic. On his owner's death he was sold to a merchant, who presented him to Shahab-ud-Din Ghorī, under whom he rapidly rose to command. He was a just and virtuous ruler. His son Aram succeeded him, but within a twelvemonth was dethroned by his brother-in-law Altamsh.—*Elph.* pp. 318-320.

SHAHAB-UD-DIN SOHURWARDI, a famous Muhammadan murshid or religious teacher of Baghdad, one of whose disciples was Shaikh Bahadur-Din Zakaria, of Multan.

SHAH ALAM II., emperor of India, 1759-1806. He was son of Alamgir II. After the battle of Panipat, the Muhammadan dynasty of Dehli never afterwards formed a stable government, and the nominal sovereign, Shah Alam, placed himself under the protection of the British. He resided at Allahabad until in 1771 the Mahrattas replaced him on his throne at Dehli, and he remained their prisoner until released by Lord Lake in 1803. Shah Alam was long blind. Gholam Kadir, a Rohilla, the son of a former prime minister, made Shah Alam prisoner, and, after treating him and all his family with great ignominy, demanded from him a treasure which was supposed to be hidden. The old emperor, with perfect truth, replied that if there was any such, he for one was in total ignorance of it. 'Then,' said Gholam Kadir, 'you are of no further use in the world, and should be blinded.' 'Alas,' replied the old man, 'do not so; you may spare these old eyes that for sixty years have grown dim with the daily study of God's word.' The spoiler then ordered his followers to torture the sons and grandsons of the emperor, who had followed and now surrounded their parent. This last outrage broke down the old man's patience. 'Take my sight,' he cried, 'rather than force upon it scenes like these.' Gholam Kadir at once leaped from the throne, felled the old man to the ground, threw himself upon the prostrate monarch's breast, and, as some historians relate, struck out one of his eyes with his own dagger. Then rising, he ordered a by-

stander to complete the work. On his refusing, he slew him with his own hand. The emperor was, however, completely blinded, and removed amid the shrill lamentations of women, and the calmer, but not less passionate, curses of men. Fifteen years afterwards, the blind old emperor became a pensioner, at the age of 86, of the British Government, and ended his days in peace, though shorn of all his imperial dignity.

SHAH-BAZ. **HIND.** *Limnaetus cristatellus*, *Temm.* In Sind the baz or shah-baz is the female, and the zorru or jurrah is the male. It is a native of Khorasan. The shah-baz gulab or yellow-eye hawk is a noble bird. In Persia the shah-baz or hawk-king is a large grey goshawk with yellow eyes, caught in the hills of Afghanistan and its surrounding regions, brought down to the plains, and sold, when well reclaimed, trained, and in good condition, for £5 or £6. The tiercelet or male, is, as usual, much smaller than the female, and is called jurrah in Persian, the active. Both are uncommonly strong and brave. They are accounted the noblest birds; the sher-baz, lion-hawk, is the falcon or peregrine of Bokhara and the snowy regions.

SHAHBAZ GARHI in the Sudam valley of the Yusufzai district, famed as possessing one of the rock inscriptions of Asoka. It is 40 miles E.N.E. of Peshawur, and 25 miles N.W. of Attock on the Indus.

SHAHDHERI, the site of the ancient Taxila, which Arrian, Strabo, and Pliny described as so magnificent, and in the treasury of which the celebrated Asoka found nine millions sterling.

SHAH DOLA, a Muhammadan saint, at whose shrine oblations are offered. Shah Dola died in the seventeenth year of the reign of Alamgir. At first a slave of Kumayandar Siolkoti in Lahore, he seems afterwards to have attained great affluence as well as fame; for, having settled at Ch'hoti Gujerat (Little Gujerat), he built tanks, dug wells, founded mosques and bridges, and embellished the city. Though his contemporaries came to visit him from far and near, and made him presents of gold, money, and other objects, he returned to each three or four fold more than he received.

SHAHID. **PERS.** A martyr for the faith, a Muhammadan who has fallen in battle against non-believers. In Muhammadanism there are 20 grades of martyrs. Shahadat-ka-roz is a solemn festival day, in commemoration of the martyrs.

SHAHIN, i.e. the Royal Bird, is the female of the Falco peregrinator, *Sundevall*, the F. shahin, *Jerdon*, and F. sultaneus, *Hodgson*. The male bird is the Kobi or Koela. It is found in all Western Asia, Afghanistan, all India from the Himalaya to the extreme south. It is highly prized for hawking, being esteemed the first of all the falcons or black-eyed birds of prey. When caught, it is trained for what in the language of falconry is called a standing gait, that is, made to hover and circle high in the air over the falconer and party, and when the game is started, it makes its swoop with amazing speed.—*Jerdon*.

SHAHINSHAH. **PERS.** An emperor. It is the modern Persian form of Kshayathiya Kshayathiyanam, the title assumed by Darius, and to be read in the cuneiform inscriptions.

SHAH ISMAIL, one of the first of the Saffavian kings of Persia, reigned about A.D. 1500.

He was supported by seven Turkish tribes, one of whom, the Baharloo, are part of the Kazzilbash. See Kajar; Kazzilbash.

SHAH ISMAIL, GHAZI, styled Ghani Iashkar, a Muhammadan saint buried at Bithurgarh in Bardwan.

SHAH JAHAN, emperor of Dehli from 26th January 1628 till deposed by his son, Aurangzeb (Alamgir I.), 16th August 1658. Shah Jahan had reigned for thirty years, and he was sixty-seven years of age, but lived for seven years after he was thus rudely set aside, and died A.D. 1076, 26th Rajab, at the age of 74. His reign was perhaps the most prosperous ever known in India. His conduct in his youth was unamiable, but his treatment of his people was beneficent and paternal, and his personal conduct when on the throne was blameless. He continued to exercise an unremitting vigilance over the internal government, was judicious in his choice of ministers, introduced important improvements, and expended with a liberality indicating great public and private wealth. In twenty years he concluded a revenue survey of the Dekhan; he founded a new city at Dehli, built on a regular plan; he constructed a throne in the form of a peacock with a spread tail, at a cost above six millions sterling; and at Agra he erected a magnificent tomb over his queen, Mumtaz Mahal, which is known to Europeans as the Taj Mahal, a mausoleum of white marble, decorated with mosaics. And all he did was with such economy, that he left a treasure estimated at from six to twenty-four millions sterling. His palace was a noble structure, raised on a spacious esplanade, but protected by a deep moat and strong walls. It was approached by a wide street, through which flowed a canal, excavated by Ali Mardan Khan, a Persian, and bringing the waters of the Jumna from the mountains to Dehli, a distance of 120 miles. He formed the gardens of Shahlimar, at Kashmir, which he annually visited. His pearl Mosque, the Moti Masjid, within the Agra fort, is perhaps the purest and loveliest house of prayer in the world. He planned the re-transfer of the seat of government to Dehli, and equipped that city with buildings of unrivalled magnificence. Its great mosque, or Jama Masjid, was commenced in the fourth year of his reign and completed in the tenth. The Diwan-i-Khas, or court of private audience, overlooks the river, a masterpiece of delicate inlaid work and poetic design.—*Imp. Gaz.*

SHAHJAHANPUR, a municipal town which gives its name to a district in the Rohilkhand division of the N.W. Provinces. The town is built on the left bank of the Gurra, 95 miles N.E. from Lucknow. District between lat. 27° 35' and 28° 28' 15" N., and between long. 79° 28' and 80° 25' 45" E.; 1744 square miles; population, 949,471 souls. Shahjahanpur town was founded in the reign of Shah Jahan, by Nawab Bahadur Khan, a Pathan, who named it in honour of the emperor. During the mutiny, the Shahjahanpur massacre occurred on the 31st May 1857.

SHAH-JI BHONSLA, son of Malaji Bhonsla, was born A.D. 1592. He was the father of Sivaji. Shah-ji had married a daughter of Lukji Jadu Rao, and rose to considerable rank in the time of Malik Ambar, distinguishing himself as a partisan during the wars in which the Nizam Shahi dynasty of Ahmadnagpur were engaged. Shah Jahan in A.D. 1635 marched from Agra to the Dekhan, and

in the first instance sent an army to recover Ahmadnagpur, which drove Shah-ji from the open country, and reduced many of his principal forts. After the fall of Dowlatabad, Shah-ji drew off to the rugged country in the west of the Dekhan, and subsequently set up a new pretender to the throne of Ahmadnagpur, and in time recovered possession of all the districts of that kingdom, from the sea to the capital. After the peace between Ahmadnagpur and Bijapur (A.D. 1636, A.H. 1016), Shah-ji gave up his pretended king and entered into the service of the king of Bijapur. He was afterwards employed in the conquest of the south of India, and obtained as jaghir the towns of Serah and Bangalore, in addition to his Poona jaghir. About the year 1664, when seventy-two years old, he was killed by a fall when hunting. He had restored his jaghir to perfect order, and had extended his conquests to the southward (under the name of the king of Bijapur) until they comprehended the country near Madras and the principality of Tanjore.—*Elphinstone*, pp. 512, 552.

SHAH KHURSHAH, author of the *Tarikh-i-Elchi-i-Nizam Shah*. He died A.H. 972, A.D. 1564.

SHAHLIMAR, gardens and pleasure-ground in Bughampur, five miles east of Lahore. They were laid out by Ali Mardan Khan, the engineer of the emperor Shah Jahan, in imitation of the garden planned by Jahangir at the sources of the Jhelum in Kashmir. The buildings fell into ruin during the latter period of the Moghul empire, but were restored by Ranjit Singh, who substituted stucco for the original marble of the central pavilion.—*Imp. Gaz.* viii.

SHAH MADAR, or Zindah Shah Madar, are names of Shah Buddée-ud-Din, a Syrian who came to India in the early period of Muhammadan sway, and, having selected Mukhampur as a place of residence, he died there. He is regarded as a wallee or saint; thousands of pilgrims visit his shrine. His followers believe he still lives (zindah). See *Dam-i-Madar*.

SHAH MAMA or Shah Muma is the name of the smaller of the idols at Bamian. The words are supposed to be a corruption of Shak-muni. See *Bamian*.

SHAH NAMA, by Firdusi, one of the longest poems in the world, contains not less than 120,000 lines. It is the great Persian epic of the east; is a historical poem, comprising a romantic history of the kings of Persia, from the commencement until the conquest of the country by the Muhammadans. See *Jamshid*.

SHAHNASHIN. HIND. A large cotton dhurri or carpet, with a 'chaupar' board woven in the centre.

SHAH NIZAM - ud - DIN AOLIA, by some supposed to have been born at Ghazni, A.H. 630 (A.D. 1232-3), and by others in A.H. 634 (A.D. 1236), at Badaam, a town in the province of Delhi, where he lived. He died A.H. 725 (A.D. 1325), and was buried near Delhi, hard by the tomb of Kutub-ud-Din. He is considered one of the most eminent saints of Hindustan, and oblations are offered to him.

SHAHPUR or Sapor I., son of Ardeshir, is famous for his conquest of Armenia, and his victory over the Roman emperor Valerian. Shahpur II. was a posthumous child, whose reign of seventy-two years (A.D. 308-380) is only paralleled in history by that of Louis XIV. In A.D. 337-363 he was occu-

pied in a war with Rome, marked by the episodes of the defeat of Constantine at Singara (A.D. 248) and the death of Julian, whose successor, Jovian, by the peace of Dura gave up Armenia (A.D. 363) and the greater part of Mesopotamia.

SHAHR-I-RUD, a large canal in the khanate of Bokhara. Its water is drawn from the Zar-afshan river.—*Trotter*, C. As.

SHAHR-I-SABZ, Timur and Baber's name of Kish, is a small Uzbek State, forming part of the dominions of the khan of Bokhara, with a population of 50,000 to 70,000, mostly Kanagas and Uzbaks, and famed for their valour. The Shahr-i-Sabz Hills rise to a height of 7000 feet.—*Trotter*, C. As.

SHAHR - ROGHAN are rock excavations, seemingly dwelling chambers, about nine miles from Bexla in Lus, on the sides of a ravine, bounded by steep cliffs 400 or 500 feet high. They are on either side of the ravine. It may be described as comprising generally an open room 15 feet square, with an inner room. The legend relating to Syf-ul-Mulk and the fairy Buddul Jamāl, refers them to the time of Solomon.

SHAH-RUKH, son of Timur, succeeded to his father's empire, and reigned forty-two years. In A.D. 1419 he sent Sadi Khaja on an embassy to China; and in A.H. 823-25 (A.D. 1440) he sent Abd-ur-Razzaq and his son Jamal-ud-Din on a mission to the king of Vizianuggur; subsequently to Ghilan, and then to Egypt, and to Ching-tau, the third emperor of the Ming dynasty. Of this embassy, a narrative, written by Khaja Ghaïas-ud-Din, surnamed Nakkash, or the painter, a member of the mission, has been preserved in Abd-ur-Razzaq's History of Shah-Rukh, and has been translated by M. Quatremere.—*Yule*, *Cathay*, i. xli.

SHAH-RUKHI, a coin current in the time of Baber, value 10d. or 11d. After the taking of Agra, A.D. 1526, Baber gave one to every man, woman, or child, slave or free, in the kingdom of Kābul. The Kulandar darvesh do not retain any money, and Kalandar or calendar was given as a nickname to Baber, from the circumstance of his giving away so great a sum of money.—*Elph.* p. 374.

SHAH SHAMS-ud-DIN DARIAI is a Muhammadan saint buried at the town of Lahore. He is stated to have had even a pious Hindu among his disciples. The latter having expressed a wish to go and bathe in the Ganges, the saint directed him to shut his eyes, when lo! the Hindu found himself among his relations and friends on that sacred stream, in which (as he supposed) he bathed with them. On opening his eyes again, he straightway found himself beside his spiritual guide in Lahore. His tomb is guarded by Hindus, who will not resign their posts to the Muhammadans. It is also related that some carpenters, having proceeded to cut down a tree which grew near his tomb, split it into many pieces for use. Suddenly a dreadful voice was heard, the earth shook, and the trunk of the tree arose of itself, the workmen fled terrified, and the tree did not fail to resume its flourishing condition. Oblations are offered to him.

SHAH SHUJA, an Afghan monarch of the Saddozai clan. He was a younger brother of Zaman Shah; and on hearing of Zaman Shah's defeat and blinding when at Peshawar, he proclaimed himself king, and in September 1801 marched upon Kābul, with an army of 10,000

strong. He was at first victorious, but was eventually defeated by the Daurani, under Futteh Khan. He was seized at Peshawur, in 1812, by Jahandad Khan, governor of Attock, and was carried prisoner to Kashmir, from which he was subsequently permitted to proceed to Lahore. Itanjit Singh treated him harshly, and compelled him to give up the Koh-i-Nur diamond. He at length escaped disguised as a mendicant, but again failing to obtain Kashmir, he joined his family at Lodhiana in September 1816. In 1818 he made another attempt from Lodhiana, and failed. On the 28th January 1833, he set out on another attempt, defeated the Sindians in a hard battle, but was defeated before Kandahar. After having been twice driven from the throne of Kābul, during Earl Auckland's administration, on the 7th August 1839 he was replaced in Kābul by the aid of a British army. After a brief supremacy he was assassinated, and Dost Muhammad Khan, who by this time had become a prisoner in Calcutta, was restored. But during the interval the Afghans had driven the British from Kābul. Sir Alexander Burnes and his brother Lieutenant Charles Burnes were assassinated; then Sir William MacNaughten fell by the hands of Akbar Khan, Dost Muhammad's favourite son; and on the morning of the 6th January 1842, the E. I. Co.'s forces issued through an opening in the ramparts that the engineers had made during the night, and commenced their retreat from Kābul towards Hindustan, accompanied by a large number of women and children. By the evening of the next day, the force had gone a distance of but ten miles, and halted on some high ground at the entrance of the Khurd Kābul pass, where the great mass of men, women, and children, horses, ponies, and camels lay down, to find a winding-sheet in the snow, there being neither shelter, nor firewood, nor food. On the next day they halted, in expectation of promised supplies of food, which never arrived. The women and children and married officers were handed over to Akbar Khan's protection on the following morning. The retreating force resumed its march through the pass towards Jalalabad, but when toiling in the narrow defile, the Afghans destroyed great numbers. Not a single sepoy was left, and all the baggage was gone. Soon after daybreak, the remnant of the force, still ten miles from Juggdulluk, pushed on with an energy which at the commencement of the retreat might have saved it from destruction. The retreating soldiers contested every inch of ground to Juggdulluk, where they halted all night and throughout the day. About 8 o'clock on the evening of the 12th, the remaining soldiers, now reduced to about 120 of H.M. 44th Regiment and 25 artillerymen, resumed their march. Though impeded by unarmed camp followers, whom the Afghans, knife in hand, destroyed, the soldiers bravely fought their way. Between the steep walls of the Juggdulluk pass there is a hilly road, up which the men struggled, exposed to the fire of the Afghans, till, on nearing the summit, they found the mouth of the pass closed by a barricade of bushes and branches of trees, at the foot of which, though bravely fighting, officers, soldiers, and camp followers were stricken down; and on the 13th January 1842 the sun rose at Gundamak on the twenty officers and

forty-five European soldiers who had cleared the barricade, and struggled on to that place,—all that was left of the many thousands of that army. A captain and a few privates were taken prisoners; the rest were massacred. A few had pushed on from Surkh-Ab. One by one they had fallen by the way, until the number was reduced to six,—three captains, one lieutenant, and two medical officers. When they reached Futehabad, 16 miles from Jalalabad, some peasants came out, spoke to the fugitives, and offered them bread, whilst eating which one of the captains and the lieutenant were cut down; the others rode off, but were pursued and taken, and three of the remaining number were slain. So out of a host of 16,000, or if women and children be included, about 26,000, of the army of the Indus, one man, Dr. Brydon, alone survived to reach Jalalabad, where, wounded, exhausted by famine, worn out by fatigue, and borne by a jaded pony, he told his dismal tidings to General Sale, who held that fortress.

Lord Ellenborough relieved the Earl of Auckland, and during his administration General Nott, at the head of one brigade, marched towards Ghazni, and General Pollock, at the head of another, towards Kābul. Ghazni was taken easily by assault, and General Nott united his force with that of General Pollock, who had marched through the Khaibar pass to Kābul. Here the troops of Akbar Khan were defeated, and the place as far as possible desolated. The officers and their families who had surrendered to Akbar Khan, by whom they had been imprisoned, were released, and soon afterwards the army retired from Afghanistan to India, where it was received with honours by the Government at Ferozpur.

SHAIKH, in India, a division of the Muhammadans who class themselves according to their Arab origin,—Ansaria, Faruki, Koroshi, Mahaji, and Sadiki; the Koroshi, Muhammad's tribe; the Sadiki, Abu Bakr's tribe; and the Faruki or Oomar's tribe. Shaikh is the title generally applied to the principal teachers among the Sufi. In Arabia and Syria, the hereditary or elected chief of a tribe is also called Shaikh, and the Shaikhs of the small tribes are subordinate to the greater Shaikhs of the potent tribes. In India this title is conceded to all who are not Syuds, Moghuls, or Pathans, and to all descendants of Muhammadan converts. The Shaikh therefore are of the most varied origin, and are engaged in all avocations, military and civil, as soldiers, in regular and irregular armies, as police, shopkeepers, and a sprinkling of them in learned professions or occupations requiring prior education.—*Malcolm's Persia*, p. 418.

SHAIKH ABU ISHAK, of Kazerun, was patron saint of the mariners in the India and China trade, who made vows of offerings to his shrine when in trouble at sea, and agents were employed at the different ports to board the vessels as they entered, and claim the amounts vowed, which generally came to large sums. Applicants to the shrine for charity also used to receive circular notes payable by parties who had vowed. When the recipient of such a note met any one owing an offering to the shrine, he received the amount on presenting his bill endorsed with a discharge.—*Ibn Batuta*, ii. pp. 90, 91; *Yule, Cathay*, i. p. 268.

SHAIKHAWATI or Shekhawati, a province of Jeypore State in Rajputana, situated between lat. 27° 20' and 28° 33' N., and long. 74° 40' and 76° 5' E. A salt lake in the province, called Kachor-Rewas, yields about 6000 tons yearly. Near Khetri are copper pyrites ores, mixed, it is said, with grey copper-ore (fahlertz or tetrahedrite); some carbonates also occur, and native copper has been found. Near the surface, also, in the shales, blue vitriol is produced by the decomposition of the pyrites. In the same mines cobalt is also obtained, the ore occurring in small veins.—*Imp. Gaz.* viii.

SHAIKH BAHĀ - ud - DIN ZAKARIA was born at Cotcaror, in Multan. He was a great traveller, having, it is said, traversed Persia and Turkey, and was a disciple for some time of Shahab - ud - Din Sohwardi, at Baghdad. He died on the 7th Sufur, A.H. 665 (7th September 1266 A.D.), and was buried at Multan.

SHAIKH BUDIN, a hill in the district of Bannu and Dehra Ismail Khan. It is a bare limestone rock, with a few stunted wild olives and acacias.

SHAIKH MUHAMMADALI, HAZIN, JILANI. His tomb is at Buxar, where he died in A.H. 1180 (A.D. 1766-67), distinguished for his science, learning, and literary talents. He wrote in both prose and verse with equal skill.—*Herkl.* p. 432.

SHAIKH MIRZA, chief of Farghana, father of the emperor Baber.

SHAIKH MUBARAK was born at Nagor. He was one of the most learned men of his time, and was conspicuous during the reign of Akbar for his great erudition and his liberal opinions on religious matters. He had several sons; the eldest, Shaikh Abul Faiz, known as Faizi, was the most popular poet of his time, a great favourite and constant companion of Akbar, who gave him the title of prince of poets. The second son, Abul Fazl, was born 14th January 1551, and as a learned man was known by the takhallus or literary title of Alimi (the learned). He rose to be prime minister of Akbar, and distinguished himself in peace and war. On the instigation of Prince Selim, he was waylaid and killed by Bir Singh, a Bundela raja, six cos from Narwai, 12th August 1602.—*Elliot*.

SHAIKH OTHMAN, a village near Aden, situated about six miles beyond the isthmus line of works, and commanding all the roads leading to Aden, was purchased from the Sultan of Lahej by the Indian Government for 50,000 dols. The village possesses some copious wells. The place was captured by the British in 1841, when an attempt was made by the combined Abdali and Fadili tribes to recapture Aden; and subsequently, in 1858, in consequence of several outrages on British subjects committed by the Abdali, under the Sultan of Lahej, on which occasion the fort was blown up with the ammunition found stored there.

SHAIKH SHARIF BOO ALI QALANDAR, born at Panipat, a town thirty cos north-west of Delhi, to which capital he came at forty years of age, and became a disciple of Kutub-ud-Din. He devoted himself for twenty years to external sciences; after which he threw all his books in the Jumna, and began to travel for religious instruction. In Asia Minor he profited greatly by the society of Shams Tabriz and Mulvi Rumi.

He then returned home, lived retired, and worked miracles, and is said to have died A.H. 724 (A.D. 1323-24?).

SHAIKH - ul - ISLAM is the chief mufti (or doctor of the law) of Turkey, the mufti of the capital. D'Ohasson states that this title was first conferred by Muhammad II. when he conquered Constantinople in 1453, and there established the seat of his empire.—*Lane's Notes*.

SHAIKH - ul - JABAL, a name by which Hasan-us-Sabah was known to the crusaders. See Assassins; Hasan-us-Sabah.

SHAIKH ZAIN, author of the *Tabakat-i-Babari*, written A.H. 998 (A.D. 1589-90). Shaikh Zain was Baber's secretary, and wrote the *Farman*, which was translated by William Erskine. It is a paraphrase in a pompous style of Baber's own memoirs.—*Elliot's History of India*.

SHAIKH ZAIN-ul-ABIDIN, a resident of Kirbala, entitled Mujtahid-i-Hai, that is, one who can make Ijtihad, or an analogical deduction from the Koran and the Hadis or tradition. The Shaikh sect of S. India pay great attention to his teaching.

SHAITAN. ARAB. Satan, according to Muhammadan belief he has four khalifa or deputies, —Muliqua, Hamaos, Mubloot, Yusuf.

SHAKAR - GANJ. HIND. Farid-ud-Din, a Muhammadan saint, born at Ghanawal, near Multan. He was so holy, that by his look clods of earth were converted into lumps of sugar. He was therefore surnamed Shakarganj, which means the treasury of sugar.

SHAL. HIND., PERS. A shawl. Do-shala, a double shawl. Shal-dori-dar, a shawl having a dori, the dhour of Moorcroft, qu. embroidered. Shala phiri, a fabric made of the seconds of shawl wool (Kashmir). Shal kitani kar, a shawl woven of twisted thread, giving it a peculiar regular and serrated texture. Shal sada, a plain shawl of pashm thread without embroidery.

SHALIMAR, several gardens of this name are known. The term is derived, by Vigne, from Shah-ul-Imarat, or royal gardens, but it may be Shahi-mari, royal-house. Mohun Lal says its original name was Sholah Mah, or the flame of the moon. One near the capital of Kashmir is famed in Lalla Rookh. It contains a building of polished black marble at the upper end of a walled garden. The streams of water running at its four corners give an idea of the Mahtab Bagh, a palace of Delhi. The gardens of Shalimar, made by the emperor Shah Jahan, were begun in the fourth year of his reign, and finished in the thirteenth, on which occasion the emperor gave a grand festival to his court. These gardens were laid out with admirable taste, and cost the enormous sum of a million sterling. At present their appearance does not give cause to suppose such an immense sum had been laid out upon them, but great part of the most valuable and costly materials has been carried away. Shalimar, in Hindustan, 6 miles north-west of Delhi. Shalimar, a garden formed by the emperor Shah Jahan at Lahore. It is about half a mile long, with three successive terraces rising one above another, and contains 450 fountains, which throw up water subsequently received into marble tanks. Ranjit Singh removed some of the marble ornaments to Amritsar.—*Mohun Lal's Tr.* 14; *Tr. of Hind.* ii. 308; *Schlagentweit's Hypsometry*, ii. 115.

SHALL, a district of Baluchistan, where snow lies for two months of the year, but in spring and summer numerous Brahui toman range over its plains. Its capital, called Shall by the Baluch, by the Afghans is called Quetta, an equivalent for kot or fort. It is surrounded by a slight mud crenated wall, and its houses were at the base of a huge mound, on which stands a citadel. The bazar is tolerably well supplied, and is a fair one for a provincial town. There are the vine, the fig, the pomegranate, the plum, the apple, and pear; mulberries and apricots are plentiful, as are also melons in their season. The valley of Shall may be about 12 miles in length, with an average breadth of 3 or 4 miles. It is well supplied with water; and besides good wheat and barley, yields much lucerne, with, it is said, some madder. The neighbouring hills—the native region of the wild sheep—provide ample pasture for very numerous flocks of the domestic animal, and Shall is proverbially celebrated for the excellency of its lambs. The valley of Shall was originally held by the Kassi Afghans, who still dwell in the town and immediate vicinity. Having passed under Brahui rule, the Sherwani tribe have intruded themselves into the southern parts of the valley; and some of the villages bordering on it, and included in the district, as Kuchilak on the road to Peshin, and Berg on the road to Mastung, are wholly or chiefly held by Khaka. Since 1878 it has been held by the British.—*Masson's Journey*, i. p. 328.

SHALLOT.

Allium ascalonicum, L. | Gundhuna, . . HIND.
Shallots are the mildest of the onion tribe, seed seldom; propagated by the young bulbs like the chive; used in sauces, salads, etc.—*Riddell; Jaffrey*.

SHAL-MULI. BENG., HIND., SANSK. The roots of *Bombax heptaphyllum*, supposed by natives of India to have great power in preventing the access of old age, if taken daily, and no acid swallowed.—*Powell*, i. p. 333.

SHAM, BALUCH, also Shamol, PUSHTU, a watershed between two rivers; also a plain, any plain or series of plains, as the Chat, Phailawar, Bohr, Siah Tank, and Kalchat, lying west of the Rajanpur border, where the Gorkhar or wild ass, wild hog, ravine deer, and large numbers of horses are found; also the Oryal (*Ovis Viguei*) on the Kup, Mir Dost, and Siah Roh ranges.—*Lt.-Col. MacGregor*, iii. p. 94.

SHAMA. HIND. *Cercotrichas macrourus*, the Indian nightingale. It is common to India and the Malay countries, and is undoubtedly their finest song-bird. There is a second species (*C. luzoniensis*) in the Philippines, and a third (*C. erythropterus*) in Africa. The esteemed Indian songster is le merle tricolor de longue queue of Levaillant. The *Orocetes cinclenchyna* is termed Shama in the Madras Presidency.—*Oiseaux d'Afrique*, p. 114. See Bulbul.

SHAMAKA, SANSK., also Shamak'h, DUKH. *Panicum miliaceum*. This millet in N.W. India is used, in the kharif crops, as an offering to the lares or household gods, in the Arwan ceremony. In the rabi crops, barley is the grain used in the Arwan, as it is called in Rohilkhand and the Upper Doab, but it is also called Nuwan, from Naia, new, and corn. When the Arwan is brought

home, the grain is taken out of the ear, mixed up with milk and sugar, and every member of the family tastes it seven times; the season is one of festivity. 'Phoola-phoola kyun phiré? G'har arwan aya,' 'Why walk you so gladly? The Arwan has been brought home.' The Di'hun is a similar ceremony. When cutting the sugarcane, part of it is brought home and spread before the saligram, the officiating Brahman declares the fortunate moment for beginning operations, and the cutting is commenced. The whole village is a scene of hilarity, and dancing and singing are the order of the day:—

'Et cererem clamore vocent in tecta; neque ante
Falcem maturis quiquam supponat aristas,
Quam Cereri tortâ redimitus tempora quercu
Det motus incompósitos, et carmina dicat.'

What the ceremony of Di'hun is to the sugarcane, that of Arwan is to the Shamak'h and barley grain.—*Ell. Supp. Gloss.*

SHAMAL. ARAB. Literally the north, but in Aden a name given to the hot sandy north winds which occur there between the months of April and September. It is extremely oppressive; and Vanden Broeck, who visited Aden in 1614, described one vividly.

SHAMAN, a Tunguz word, meaning exorciser of spirits, supposed by Bunsen to be a corruption of *Sramana*, a term applied to Buddha and to Buddhist priests in general. Shamanism found its way from India to Siberia via Tibet, China, and Mongolia. Rules on the formation of magic figures, on the treatment of diseases by charms, on the worship of evil spirits, on the acquisition of supernatural powers, on charms, incantations, and other branches of Shaman witchcraft, are found in the Strangyour or Tanjur, the second part of the Tibetan canon. Shamanism means a deification of the powers of nature and a spirit worship. According to Dr. Latham, Saman is the name given by the Turk population of the Lena, called the Yakuts, to their highest divinity. Megasthenes in B.C. 295, in his embassy from Seleucus to Sandracottus (Chandragupta), divided the philosophers of that country into the Brahman and the Saman, or Saman. Of these latter, the most famous were such as lived a life of asceticism in the woods, clothed in the bark of trees, and feeding upon seeds and fruits. In Shamanism, magic and ritualism of every form must be included. The modern Shaman affects a peculiar intimacy with the divinities of the stream, cave, and forest, and acts as a medium between them and their believers. He fashions rude images of what he calls deities, and in his exorcisms he works himself into a strange mixture of trance and epilepsy. Shamanism exists undisguised amongst the Shanar of Ceylon, among many of the less civilised races of India, and mixed with Hinduism in almost every village. It is found amongst the races of Scythic or Tartar origin who occupied India prior to the arrival of the Aryan Hindus, and to the present day branches of the Tamil race in the extreme south of India continue to practise fetish and shaman rites. Shamanism amongst the Turanians was evinced by ecstatic excitement. In Shamanism, the superior deities are far more powerful than man, and of a different nature. Their place of abode also is far away, and accessible only to Shamans. As totemism overlies fetishism, so

does Shamanism overlie totemism. Colonel Dalton states that the paganism of the Ho and Mundah in all essential features is Shamanistic. In Siberia the Shamans work themselves up into a fury, supposing or pretending that in this condition they are inspired by the spirit in whose name they speak, and through whose inspiration they are enabled to answer questions and to foretell the future. From Sloudenka to Koulouk the distance is only 20 miles, but a part of this station is very bad, till the road descends to the shore of the Baikal, which it reaches near a mass of rocks named Shaman Kamen. Formerly the religious fanatics executed their criminals here. Their religion and its ceremonies are founded on sorcery; they believe in good and evil spirits, and sacrifice parts of the maral to their god, whom they name Bour-khan. They give themselves little trouble about the good spirit, but for the evil one they have a great reverence. They believe him an inhabitant of our earth, that he has his abode in dense forests and rugged mountains, and that he is ever active in the midst of terrific storms. They also think that he has the power to transform man into whatever shape he pleases. With the Shamans, the priesthood is hereditary; it is a rare instance that a stranger is admitted into it. The Shaman Kamen is held sacred by all of the Shaman creed, and they never pass it without offering up their devotions. Rude figures have been sculptured upon its surface, and formerly men, women, and children have been sacrificed upon its summits.

SHAMBALI. PERS. A day of the Muhammadan week, the day Saturday, to which the words *ek, do, sih, char, pānj, and shash* are prefixed from Sunday to Friday.

SHAMIANA. HIND. A square tent or a canopy open at the sides, supported at the four corners by poles.

SHAMLA. HIND. A large turband formed by coils of muslin twisted together; a scarf shorter than a loongee or kamrband, made for wear as a turband.

SHAMLU, or the Sons of Syria (Sham), are one of the most numerous of all the Turkish tribes in Persia. The Karaguzulu, the Baharlu, and several other tribes in Persia, are branches of the Shamlu, who were brought into Persia from Syria by Timur. Ismail took full advantage of the enthusiasm of his disciples, to cherish feelings so essential for the political greatness of the empire he governed. The seven Turkish tribes who had been the chief promoters of his glory and success, were distinguished by a particular dress. They wore a red cap, from which they received the Turkish name of *Kazzilbash*, or golden heads, which has descended to their posterity. The swords of these tribes were consecrated by these distinctions to the defence of the Shiah religion; and a sense of that obligation has survived the existence of the family by whom it was first created. The names of these tribes were the *Ustajalu*, the *Shamlu*, the *Nikallu*, *Baharlu*, the *Zu-l-Kaddar*, the *Kajar*, and the *Affahar*. Each of these had seven subordinate tribes under them, but this probably refers not to the ill or tribes, but to subordinate *teerah* or branches. — *Malcolm's Persia*, i. pp. 390, 502.

SHAMMAR, the 24th king of Himyar, extended his conquests to Mowil. He defeated the Tartars

at Azerbaijan, subsequently he subdued Khorasan, passed into Balkh and Sogd, which he rebuilt and called *Shammar-kand*, i.e. *Shamar* destroyed it. He passed into Tibet, in one of the deserts of which he with his army was destroyed by thirst. This expedition is placed in the reign of Gushtasp, as also in that of Bahman of Persia.

SHAMPOO, to press the different parts of the body by the hand. The most common mode of shampooing is to knead, as it were, the body all over, squeezing and stretching the joints at the same time. There are, however, many other ways of its being done. A writer says, a man lay down, and three or four people came and patted every part of him (not even missing his face), until he went to sleep.

SHAMS. ARAB. The sun. *Shamsi sal*, a solar year. *Shamsi mahaina*, a solar month, in opposition to *Kamri*, lunar.

SHAMSHIR BAHADUR, an illegitimate son of the first peshwa of the Mahrattas, Baji Rao. His mother was a Muhammadan woman, and he was brought up in his mother's religion. Baji Rao left him all his possessions in Bundelkhand, and all his pretensions in that locality. — *Elphin*.

SHAMSHIR KHANI, PERS., is a prose abridgment of the *Shah Namah*, into which are introduced some of the finest passages of Fardusi's poetry.

SHAM-SHU. ANGLO-CHINESE, from the Chinese words *Shan-shau*, meaning thrice distilled, also called *Shau-tsui*, meaning distilled wine. It is distilled from all sorts of cereal grains, and millet is largely used. *Yuen-tsui* means absolute alcohol. Like the *mahwa* flower arrack, the Chinese *Sham-shu* has a disagreeable flavour caused by the presence of fusil and other alcohols, which, however, could be separated. — *Smith*.

SHAMSI. The most northern district of the range, extending to the neighbourhood, of Tripoli, is occupied by a sect of idolaters called *Ansari*. A spacious plain, open to the sea on the west, extends north as far as Tortosa, and is bounded on the east by the *Ansari* mountains. This chain is a lower branch of the *Libanus*, but is less known than most parts of this celebrated mountain, being inhabited by the lawless *Ansari* tribe, who have never been brought into actual subjection by any of the Pashas. Of their sects, the *Shamsi* are said by some to worship the sun, but the origin of this people and their religion are still unknown. Like the *Druses*, they may possibly be a *Muhammadan* sect. Burckhardt mentions the *Ansari* sects, calling them *Kelbye*, *Shamsye*, and *Mok-ladjye*. The *Ansari* are the least numerous of the *Lebanon* tribes, their number in 1840 not exceeding 20,000 souls.

SHAMS-I-TABRIZ, a Sufi philosopher, was the teacher and spiritual guide of Jalal-ud-Din. It is related that Jalal's father, Baba Walad, had a disciple, who for some reason gave offence to Shams-ud-Din; the latter in punishment inflicted a deafness on both the disciple's ears. After a time Shams pardoned the offender, and restored his hearing. But the man bore him a grudge in his heart nevertheless. One day Shams said to him, 'Friend, I have pardoned thee: wherefore art thou still cast down? Be comforted.' Notwithstanding this, his rancour remained. One day, however, he met Shams in the midst of a market. Suddenly he felt a new faith glow

within him, and he shouted out, 'There is no deity save God; Shams-ud-Din is the apostle of God!' One of the market people came forward to cut him down, but Shams uttered so terrific a shout that the man at once fell down dead. The rest of the market people submitted. Shams now took the disciple by the hand and led him away, remarking to him, 'My good friend, my name is Mahomed. Thou shouldst have shouted, "Mahomed is the apostle of God." The rabble will not take gold that is not coined.' Shams-ud-Din's arrogance and violence at length brought him into difficulties, for he was arrested during a tumult which his followers had raised, and removed by the police. All his pupil Jalal's miraculous powers failed to find out his whereabouts after this. He is said to have been flayed alive at Multan, and over his supposed remains a magnificent shrine has been erected. Tradition ascribes the intense heat of Multan to his prayer, from which the sun descended from the heavens to cook his food. Burton says the Multan people slew him in order to have his body among them.

SHAMS-UD-DIN ALTAMSH was purchased by Kutub-ud-Din Aibak for 50,000 pieces of silver. He rose through different offices to be governor of Behar at the time of the revolt, A.D. 1211, A.H. 607. Taj-ud-Din Eldoz gave him investiture unasked, but subsequently made an attempt to establish himself in India, and was defeated and taken prisoner (A.D. 1215, A.H. 612), ending his days in confinement. His reign was marked by the approach of the Moghuls under Chengiz Khan, but after withdrawal he conquered Sind to the south of Tatta (A.D. 1225, A.H. 622), also Behar and Bengal. In the next six years (A.D. 1226, A.H. 623, to A.D. 1232, A.H. 630) he was employed reducing Hindustan, taking Rintambor, Mandu, Gwalior, Bhilsa, and Ujjain. He died at Delhi, April 1236, 20th Shaban 633. He had received investiture from the khalif of Baghdad. The author of the Jama-ul-Hikayat resided at his court. The Kutub Minar near Delhi was completed in his reign. He was succeeded by his son Rukn-ud-Din, and then his daughter, Razia Begum.—*Elphinstone*, p. 322.

SHAN. The Shan, or Tai, or Thai, as they call themselves, are the most extensively diffused, and probably the most numerous, of the Indo-Chinese races. Their tribes and clans are distributed from lat. 25½° N. to the Gulf of Siam, in lat. 13½° N., in the valleys of the Munipur river, the Kyendwen river, the Irawadi, the Salwin, and the tributaries of the Menam. Thai is the native name of the Siamese, and their chief divisions are Laos, Shan, Ahom, and Khamti. The race swarm in many tribes over the countries stretching from the valleys between China and Tibet on the north, to the Gulf of Siam in the south. They occupy all the territories between the Irawadi and the mountains of Annam, and if united would form a most formidable state in Eastern Asia.

Lapping the Burmese round, from N.W. by N. and E. to S.W., from Assam and the Brahmaputra to the Gulf of Siam, they are found from the borders of Manipur to the heart of Yunnan, and from the valley of Assam to Bangkok and Kamboja, everywhere Buddhist, everywhere to some extent civilised, and everywhere speaking the same language with little variation. Their traditions, as also those of Siam, speak of a great

kingdom held by this race in the north of the present Burmese empire, but the race is now split into a great number of unconnected principalities, and the kingdom of Siam is now perhaps the only independent Shan State in existence. All the others are subject or tributary to British India, Ava, China, or Cochin-China. In lat. 24½° to 25½° north-east of the Kakhyen, the Shan tribe occupy the left bank of the Nam Kathé or Munipur river, between the 23d and 24th degree of north latitude, south of the Kathé or Mòí tni tribe, and west of the Kubo valley; also, near Bamo on the right bank of the Irawadi, with the Kakhyen on the north and on the east, mixed up with the Pwo and with the Kadu on the south. Shan States are extensive at the forks of the rivers which in lat. 18° N. form the sources of the Menam river; and in lat. 15° N., and between long. 99° and 100° E., they dwell in the mountains on which grow the sappan-wood forests. The Shan, who are tributary to the Burmese empire, consist of twelve petty states, the hereditary chiefs of which, called Tsawbwa, hold from Mandalay. Of the twelve states, seven are on the west and five on the east of the Salwin. Mobyé and Mohmo, the states nearest to the Red Karen, pay tribute to them. The other states are named Nyung-yu-wé, Myelat, Mone, Legya, Theinne, Mormeit, and Thung-bain, Kaingma-Maing-maing, Maingleng-gye, Kiang-hung, Kiang-tung, and Kiang-khen. The Shan are called Kabu in the Munipur language.

The Shan country is the Laos of geographers. Leaving out of view the intruding and partially interspread Shan or Lau tribes, the Burmans march on the north with rude tribes of their own family, collectively termed Singpho (properly Sing Phol), who occupy the Upper Irawadi. On the extreme north, the linguistic boundaries of the Singpho are unknown. It is possible that they march with the Khampa or ruder Tibetans of the S.E., unless the snowy mountains which there form the watershed between the Irawadi and the Tsang-po cut them off, as is more probable, from all intercourse with their northern neighbours. The Shan or Tai, the powerful Siamese, on the extreme south-east, are the youngest, but the most powerful, member of the Shan family. They trace their origin to an offshoot from the Laos, whom they formerly denominated Great Tai, while they called themselves Little Tai. They were originally tributary to Cambodia, but became independent in A.D. 1350.

About the 13th century, the Lau were a powerful and conquering people in the upper portion of the basin of the Irawadi, where their capital was at Mo-gaung (Muang-gaung or Mung Khong), and whence, in A.D. 1224, they sent an expedition which subjugated Assam and established Ahom rule. Their native country was a portion of the basins of the Mei-kong and the Menam, including Yunnan.

The Ahom, on the extreme north-west, came into Assam about the beginning of the 12th century, about the same time that the Siamese went south.

Before the 13th century, the Tai formed a compact body on the east, and perhaps north of Burma, probably pressed on by the Moghuls in China, Kablai Khan having fixed himself in Assam in the time of the first Ahom chief.

The exact position of the Great Tai, the Laos of geographers, is unknown.

In A.D. 1228, Chukupha, king of Pong, assumed for himself and people the title of Ahom, the peerless, now softened to Assam. About the same time, they took possession of a higher portion of the upper basin of the Mill, where their chief seat was at Khamti, whence the name by which this branch is still known.

In the basin of the Irawadi, the Shan are intermixed with the Tibeto-Burman tribes, amongst whom they have intruded; but in large portions of it they are the principal population, and in the N.E. corner of the empire the Khamti may be considered as independent. It is probable that the Siamese, with the tribes of the Upper Menam and of the Mei-kong, are directly connected with those of Yunnan, and are not offshoots from the colony of Muang-gaung. The Siamese have advanced more than half-way down the Malay Peninsula, and but for the check given to them towards the close of the 18th century, by the establishment of Penang as a British settlement, their sway would now have embraced Perak, and probably have extended to the confines of Malacca. The northern clans almost everywhere retain their independence, although owning a nominal allegiance, and in some instances paying tribute, to Burma, to China, or to Siam, those on the frontiers of Yunnan propitiating both the Golden Foot and the Son of Heaven, by an acknowledgment of fealty, and some sending a triennial offering to the latter.

The Phaki or Phakial race on the Dihang river, the Kamjang of Sadiya, and the numerous settlements of the Khamti race, are all colonies of this Shan race, retaining the costume, customs, and religion they brought with them into the Assam valley. Of these the Khamti are the most numerous and important. Whatever may have been the original seat of the Khamti people, they immigrated to Assam, since the middle of the 18th century, from the country known to the British as Bor-Khamti, near the sources of the Irawadi, which was visited by Wilcox in 1826.

At present the Lau, under the names of Shan and Khamti, are found in Upper Assam, and scattered over a large portion of the northern half of the basin of the Irawadi, near to the confluence of the Kyendwen with the principal stream. Scattered villages are even found in Arakan, on the eastern side.

Their general complexion is light-brown, their hair black and abundant, nose not flattened.

Those residing in Burma are generally smaller than the Burmese, from whom they are readily distinguished by their black jackets of glazed calico and short blue breeches. The Siamese may be considered as having a remarkable modification of the Burma-Chinese head, with a peculiar tendency to elongation and verticality. They have large straight faces, flat occiputs, lowness of the hairy scalp, comparatively small and firm mouth, hard staring eye, and a grave expression. Siamese appears by far the most widely-spoken language of Ultra-India. It was at one time the lingua franca of Kidah, almost as much as the Malay, and even that wandering Negro tribe the Semang, spoke it in some places. It was also current in Assam and Yunnan, at the opposite extremities of Ultra-India.

At Bhamo, to the north, east, and south-east of which they are numerous, the language of the Shan corresponds with that of the Siamese.

The Lau, on the borders of China, differ little from the Chinese of Yunnan, and their stock was probably the same. Where they are in contact with the old races they have considerably altered. In the valley of the Menam, their height is about 1½ inches less than the average Chinese, but the average stature of the French is the same, viz. 5 feet 3 inches.

The Lau or Shan race speak a language which was primarily East Himalaic, like Mon, Kambojan, Annam, and Pa-long. Like them, it was carried at some remote period into the Brahmaputra Gangetic province, and received some Dravidian roots. Subsequently it shared in the great eastern movement of Himalaic dialects from the basin of the Ganges into that of the Irawadi, where it was intimately connected with some of the intrusive West Himalaic or Tibeto-Burman dialects. It was then pressed further into the east, into the basin of the Upper Mei-kong and Tonkin, and became the language of Yunnan. During the Han dynasty, Chinese colonies began to occupy the valleys of Yunnan, and from that time Lau was exposed to the influence of Chinese, and began to receive the modified form it possessed when the pressure of that great race on the older tribes of Yunnan caused the Lau to swarm to the westward and southward. When they re-entered the basin of the Irawadi, they had acquired from their partially Chinese civilisation, a superiority over the Tibeto-Burman tribes of northern Ultra-India, which made the Lau clans predominant along the central belt of Ultra-India, from the Himalaya to the mouth of the Menam.

The Shan are great workers in silver, and the art of embossing on different utensils of silver seems to be known to the Kathay Shan, of whom there were in the middle of the 19th century 20,000 or 25,000 between Ava and Amirapura. Tin exists in the Shan States to the south-west of Mandalay, but the mines have never been worked. The tin consumed in the country now is all imported. Iron abounds in the Shan States, and the district of Pagan, to the south of Mandalay, is noted for it. A manufactory exists on a rough-and-ready scale in this district at Pouph Toung, but the out-turn is inconsiderable. To the west of Sagaing, for miles up the Irawadi river, the ore abounds—a rich hæmatite.—*Yule, Jour. Geog. Soc.* xxvii, 1857; *Mason, Tenasserim; Latham's Ethnology*, pp. 157-257.

SHANAR or Sanan, a race in the south of India, about Tinnevely, Madura, and Travancore, who are toddy-drawers, merchants, traders, shopkeepers, some of whom have been very successful in business. They are also styled Nadan, and they append to their names the term gramani as a tribal title. They are a dark-skinned race, with low foreheads, sunken eyes, and prominent cheek-bones, timid and superstitious. They are not so good-looking even as the Maravar. They are largely worshippers of evil spirits (see Devil-Worship), but since the middle of the 19th century many have accepted Christianity.

SHANAR CASSOO, a Venetian sequin.

SHAN-BAF, a cotton fabric made at Dacca.

SHAND. HIND. of Kohat. A third quality of

SHANDUSE.

land; it is allowed to be fallow, and is cultivated for paddy.

SHANDUSE, a cotton scarf, coloured border and ends, used in Khyrpur.

SHA-NE, BURM. A bast of Arakan, of a reddish-brown colour, rough and coarse.

SHANG, the second dynasty of China, began B.C. 1659, lasted 509 years to 1050. Twenty-eight reigns in fifteen generations.

SHANGHAI is the most northerly and most important of the Chinese ports that have been opened to foreigners. It is a heen, a district city of Sun-kiang-fu, in the province of Kiang-si, is situate on the right bank of the Woo-sung river, lies in lat. 30° 25' N., and in long. 120° 32' E., being distant from Chusan about 100 miles, in a north-westerly direction. The Woo-sung, its river, flows into the Yang-tze-kiang (child of the ocean), which is called by many, and most appropriately, the main artery of China, as it flows through many provinces, and some of the most wealthy cities of China are built upon its banks. The Woo-sung, or Shanghai river, is deep, and easily navigable when the bearings are understood. Cannel coal is found in abundance near Shanghai.

SHANGRI or Sangri. HIND. The seed-pods of the jhand, *Prosopis spieigera*, one of the common shrubs of the rakh or waste lands of the Panjab.

SHANG-TI, CHIN. A title which some Chinese scholars apply to designate the God of the Christian Scriptures, but which others render supreme ruler, supreme emperor, or ruler or emperor on high, Le Seigneur and Le Souverain Maître of Gaubil. The discussion on this point has been going on since the 16th century, the Jesuit missionary Matteo Ricci on the one side, and Lingobardi on the other; Drs. Medhurst, Legge, Edkins, and Chalmers on one side, and Bishop Boone, with Drs. Bridgmans and Williams and the Archimandrite Palladius, on the other.

SHAN OIL, used in Burma for mixing with paints; made by the Shan from, it is said, the fruit of the wood-oil tree, a species of *Dipterocarpus*.

SHAN-SI and Shen-si, two provinces of Northern China, separated by the Hoang-ho or Yellow River. Shan-si is one of the smallest provinces in China. It resembles in form an oblong lozenge, and is bounded on the north by Tartary, on the south and south-west by Ho-nan, on the east by Peh-chi-li, and on the west by Shen-si.

SHAN-TUNG is a long peninsula, extending towards Corea, dividing the Gulf of Peh-chi-li from the Yellow Sea. It is bounded on the north-west by Peh-chi-li, on the south-east by Ho-nan, and on the south by Kiang-si. It means east of the hills. Its surface is estimated at 56,000 square miles, and the population is nearly 29 millions. Besides grain, this province supplies large quantities of fish, a great portion of which, packed in ice, is sent to Pekin by the Imperial Canal. Among the vegetable oils imported into Ningpo and other Chinese ports from Shan-tung, Leatong, and Teisin, are oil of teaus, obtained from green and dried peas, black oil of the fruit of the tree kin (?), and oil from the pea of Suchau. —*Fortune*.

SHA-PHYU, a bast of Arakan; long, thin, smooth layers, light-coloured, tough, and flexible.

SHARK.

SHAPOO, or wild sheep of Ladakh. Moorcroft in his *Travels* mentions seeing one killed near Lameru. —*Adams*.

SHARBAT. HIND. A beverage made of lime-juice or pomegranate juice, or merely sugar and water, the French Eau-sucré. When a Bedouin prepares coffee, he drinks the first cup; the Sharbat-i-kajari of the Persians, and the Sulaymani of Egypt, render this precaution necessary. The Sharbat-i-kajari is the Acetta of Persia, and derives its name from the present royal family. It is said to be a mixture of verdigris with milk, more probably a poison of more activity. In Egypt and Mosul, Sulaymani (the common name for an Afghan) is used to signify poison. The banks of the Nile are infamous for these arts, and Muhammad Ali Pacha imported, it is said, professional poisoners from Europe. Sharbat, ARAB., is from Sharb, he did drink. Those esteemed are Sharab-ul-Laimun, lemon sherbet; Banafshah, violet sherbet; Toot, mulberry sherbet; Hommeyd, sorrel sherbet; Zebeed, raisin sherbet. Sherbets are favourite beverages, made with the juice of fruits, mixed with water and sugar, with the addition of rose-water, or some other fragrant ingredient. The Persian sharbets are most esteemed. —*Burton's Mecca*, iii. 43; *Faulkner*.

SHARIF. ARAB., HIND., PERS. Noble; the tribal title of the offspring of a Syud and woman of another Muhammadan tribe; also the title of the hereditary ruler of Mecca.

SHARK.

Kalb-ul-bahr (sea-dog), AR.	Pesce-cane, . . .	IR.
Goulu de mer, . . .	FR.	Jyu, Yu, . . .
Hai-fisch, . . .	GER.	Tiburón, . . .
Auwal, . . .	HIND.	SP.

Sharks belong to the cartilaginous fishes; they abound in numbers and species, and are remarkable for their wide geographical distribution. They enter rivers to a considerable distance from the sea. The name for the shark in Malay and Javanese is Iyu, or, abbreviated, Yu, and is even found in some dialects of the islands of the Pacific. The *Carcharodon Rondeletii* is the shark of Australia; one of them measured 36½ feet. The great basking shark is the *Selache maxima*. The shark of the Tigris river, of Indian rivers, and Fiji river is *Carcharias Gangeticus*.

The hammer-headed shark, shuang-chi-sha, is caught on the coasts of China and Formosa. The fins are considered a great delicacy, and in their dried state sell at 60 dollars a pikul; when skinned, cleaned, and cooked, often as much as 200 dollars a pikul. The fins of species of *Carcharias* and *Zygæna* are the most prized. The meat is tolerably good.

The white shark, or sha-mu-lung of the Chinese, grows to 20 feet in length; its fins are of less value.

The lung-men-sha is the shovel-nosed sucker. Its fins and flesh are more esteemed than any other.

The saw-fish of China, also called shark saw-fish or sha-chu-yu, grows to 15 feet in length. Its meat is eaten, and fins are esteemed. The saw is kept as a talisman to ward off evil spirits.

The fishermen of Auping, in Formosa, distinguish sixteen sharks. The most dangerous to man is the ta-yuan-tou-sha, or big round-headed shark. Its fins are of second quality, and flesh indifferent. Chinese say that the eat-bird shark, shih-niao-sha, simulates death, and floats on the

surface of the water. Sea birds thinking it dead, alight on it, and are caught by the shark sinking its tail, on which the birds move towards its head.

Shark skin is used by the native workmen for polishing wood and ivory; and shark-fins are largely exported to China. In the Gulf of Manaar they are taken for the sake of their oil, of which they yield such a quantity that shark's oil is a recognised export. A trade also exists in drying their fins, for which, owing to the gelatine contained in them, a ready market is found in China, whither the skin of the basking shark is also sent, to be converted, it is said, into shagreen. Sharks are said to attack the fair-skinned races more frequently than men of darker hues, and the pearl-divers of the Persian Gulf used to blacken their skins with a view to avoid these monsters.

In the South Pacific and Sandwich Islands sharks were formerly worshipped. When the king or the priests of this divinity imagined that the shark wanted food, they sallied forth with attendants, one of whom carried a lasso, which they threw at random amongst any crowd, and whoever was caught was strangled, cut in pieces, and thrown into the sea.

There are many large boats, with crews of twelve men each, constantly employed in the shark fishery in Kurachee. The value of the fins (PAK, DUK., GUJ., HIND.; IYU SIRAP, YU SIRAP, MALAY; SOORA MEEN SEPPUTAY, TAM.) sent to Bombay varies from Rs. 13,000 to Rs. 18,000 a year. Of this a portion only passes directly into the hands of the fishermen, each boat earning perhaps Rs. 1000 annually, or Rs. 100 for each man. From this falls to be deducted the cost of material and other charges. This trade was noticed by Dr. Royle in 1842. It affords on some occasions to Bombay alone, taking fish-maws and shark-fins together, as much as four lakhs of rupees (£40,000), and furnishes the chief means of support to at least 3000 fishermen, or, including their families, to probably not less than 15,000 human beings. One boat will sometimes capture at a draught as many as a hundred sharks of different sizes, but sometimes they will be a week, sometimes a month, without securing a single fish. The fishermen are very averse to revealing the amount of their captures. Inquiries of this sort are supposed by them to be made exclusively for the purpose of taxation. The great basking shark, or mhor, is always harpooned. It is found floating or asleep near the surface of the water, and is then struck with a harpoon 8 feet long. The fish once struck is allowed to run till tired, and is then pulled in and beaten with clubs till stunned. A large hook is now hooked into its eyes or nostrils, or wherever it can be got most easily attached, and by this the shark is towed in-shore. Several boats are requisite for towing. The mhor is often 40, sometimes 60 feet in length; the mouth is occasionally 4 feet wide. All other varieties of shark are caught in nets in something like the way in which herrings are caught in Europe. The net is made of strong English whip-cord, the mesh about 6 inches; they are generally 6 feet wide, and are from six to eight hundred fathoms, from three-quarters to nearly a mile in length. On the one side are floats of wood about 4 feet in length, at intervals of 6 feet; on the other, pieces of stone. The nets are sunk in deep water from 80 to 150

feet, well out at sea. They are put in one day and taken out the next, so that they are down two or three times a week, according to the state of the weather and success of the fishing. The lesser sharks are occasionally found dead,—the larger ones much exhausted. On being taken home, the fins are cut off and dried on the sands in the sun; the flesh is cut up in long stripes and salted for food, and the liver is taken out and crushed down for oil. The head, backbone, and entrails are left on the shore to rot, or thrown into the sea, where numberless little sharks are generally on the watch to eat up the remains of their kindred. The fishermen themselves are only concerned in the capture of the sharks. So soon as they are landed they are purchased by Bania merchants, on whose account all the other operations are performed. The Banias collect them in large quantities, and transmit them to agents in Bombay, by whom they are sold for shipment to China. Not only are the fins of all the ordinary varieties of shark prepared for the market, but those also of the saw-fish, of the cat-fish, and of some varieties of ray or skate,—the latter, indeed, merges almost insensibly into the form of those of the shark. The cat-fish, known in India by the same name as in Britain, has a head very like that of its European congener, from which it differs in all other respects most remarkably. Its skin is of a tawny yellowish-brown, shading from dark-brown on the back to dirty-yellow on the belly. It is beautifully covered all over with spots of the shape and size of those of the leopard, similarly arranged. The value of sharks' fins annually exported from Bombay amounts to betwixt a lakh and a half and two lakhs of rupees. The largest fishery at any given port is probably that of Kurachee, which affords nearly one-tenth of the whole, but the shark fishery is conducted all along the Bombay coast. In Fiji they are said to be caught by means of a curiously-formed piece of wood, about 4 feet long, and in shape very much like a whale boat, but solid. From a hole in the centre descends a strong cord of twisted rattan, forming a running noose.

Sharks of the south of Asia are a regular article of trade for the market of China, where they are prized for their restorative qualities. They are sought for from every maritime country between the Arabian Gulf and the East Indian Islands.

The shark fins of commerce are not exclusively selected from sharks (*Squali*), but equally from Raia. Quantities examined at Penang were composed of fins of the genera *Stegostoma*, *Carcharias*, *Sphyrna*, *Pristia*, *Rhinobatus*, *Trygon*, and *Myliobatis*. But of all fishes, sharks and rays are the most valued by the Chinese. The fish and entrails of all, not even the electric rays (*Torpedinidæ*) excepted, are eaten either fresh or dried. The skin is used for polishing, or converted into shagreen. Gelatine is obtained from the larger fins, glue from the smaller. All, except the caudal fins, are cut at the root so as to leave as little flesh as possible. The root is dipped in wetted lime (*chunam*), in the erroneous belief of preventing attacks of insects, and then the fins are dried in the sun. Those imported in the Straits Settlements are packed promiscuously in gunny bags, each containing from one-half to one pikul. According to the value in the Chinese market, the fishmongers assort the fins in two

kinds, white and black. The white consists exclusively of the dorsal fins, which are on both sides of a uniform light colour, and reputed to yield more gelatine than the other fins. In China, the lovers of gelatinous soups pay from 30 to 40 Spanish dollars per pikul for white fins. The pectoral, ventral, and anal fins pass under the denomination of black fins. The colour, however, varies, according to the species, from buff to grey or brown, and most of them are of two different colours, the upper surface being dark, the lower light. The black fins, for obvious reasons the most numerous, are supposed to yield a comparatively small quantity of gelatine, and sell in China from 15 to 20 Spanish dollars per pikul.—*Montgomery*, i. p. 422; *Tennent's Ceylon*, p. 325; *Keppel's Ind. Arch.* ii. p. 205; *Low's Sarawak*, p. 89; *Bombay Monthly Times*; *Royle on Isinglass*.

SHARRA. ARAB. Law, equity, the precepts of Mahomed; religion, faith, justice. Written properly Shar'a. In the Muhammadan religion, the law, as the precepts of Mahomed derived from the Koran, is sometimes classed as (1) Itikadat, articles of faith; (2) Ibadat, religious worship; (3) Muamalat, civil law or social transactions; (4) Muzajar, criminal law, punishment; and (5) Adub, moral conduct.

The fakir or darvesh act in accordance with religion (Ba-sharra) or differently (Be-sharra). The Ba-sharra are family men, and living according to the laws of the Koran.

The Be-sharra, without the law, are majzub, celibates, whose sanctity places them above the laws of the Koran.

In India, the chief fakirs are—Kadaria or Banawa, whose founder lived at Baghdad; Chistia, followers of Banda nawaz, whose shrine is at Kulburga; Shuturiah; Tabkatia or Madria; Malanj; Rafai or Guzzinar; Jalalia; Sohagia; Nakhshbandia; Bawapiari ka Fakir.—*Wilson's Gloss*.

SHART. ARAB. Employed by Muhammadans in Southern India to indicate a horse conveyance, either buggy or palanquin carriage. In Bombay, the Tamil words Sikram-po, literally go quickly, are applied to the latter conveyance.

SHASTHI. HIND. The sixth day of the new moon; in Hindu belief is dugdha, or unpropitious for any good work. (2) A Hindu goddess, protector of children.

SHASTRA. SANSK. The holy books of the Hindus. Of the six Vedanga or bodies of learning, three belong to grammar; one relates to religious ceremonies; a fifth to the whole compass of mathematics; and the sixth to the explanation of obscure words or phrases in the Vedas. Subordinate to these Anga (though the reason of the arrangement is not obvious) are the series of sacred poems, the body of law, and the six philosophical shastras. Shastra, SANSK., is from Shus, to rule.

SHASTREE or Shastri, a Brahman learned in the religious books of the Hindus.

SHATATAPA, a Hindu ascetic mentioned in the Markandeya Purana. He was one of the Smriti writers, and wrote the Karma Vivaka.—*Ward*, iv. p. 27.

SHAT-u-DIJIAH, a name of the Tigris as far as Kut-ul-Amarah, a small town on the left bank nearly midway between Baghdad and Koornah,

being about 178 miles by water from the former city, and 97½ miles directly S.S.E. from the latter. Lower down, after passing for about 40 miles through marshes, and coming near the tomb of Ezra, the river resumes its former size and character, as it winds in the general southern direction to Koornah, which place is 232 miles from Kut-ul-Amarah by the windings, and 144½ in direct distance.

SIAT-ul-ARAB is the united stream of the Tigris and Euphrates, the two rivers of Mesopotamia. It is called by British sailors the Basrah or Euphrates. It is a fine river, about 1200 yards wide at its mouth, and is navigable for large vessels drawing 18 feet to beyond Basrah, a distance of 80 miles from its bar, in lat. 29° 46' N., and long. 48° 40' E. The rise and fall at spring-tides ranges from 8 to 10 feet. It disembogues into the Persian Gulf.

SIAT-ul-HAI, a canal which leaves the Tigris nearly opposite the town of Kut-ul-Amarah, and runs to the Euphrates about 80 miles above Koornah.—*MacGregor*.

SHAWL GOAT, *Capra hircus*, L., the shawl goat of Spiti, yields inferior wool to that of Tibet. Shawl goats' hair is called Pashm in Hindi, and Kashmiri lena in Tibetan. The common domestic goat of Ladakh is the well-known shawl goat, of which there are said to be two varieties. One is a large animal with great horns, called Rappoo; the other, smaller and with slender horns, is called Tilloo. It thrives only in the most elevated districts. It is bred in Nubra, Zanskar, and Rukchu, but the finest wool is brought from Ruthog and Gnari, which formerly belonged to Lailakh, and from Chang-Thang, or the southern and mountainous districts of Khotan. It is only shorn once a year, and the wool is at once separated from the coarser hair. The hair is pulled out, and is manufactured into blanketing, for tents, coarse sacking, and ropes for home consumption. The wool is shorn, and is exported to Kashmir, and to Nurpur, Amritsar, Lahore, Ludhiana, Ambala, Rampur on the Sutlej, and Nepal. To Rampur and Nepal, the wool is exported direct from Ruthog and Gnari, but Leh is the entrepot between the other shawl marts and the wool-producing countries. The fine shawl-wool is called Lena (Lana, L.T.), the common wool Bal, and the hair Pu. In Kashmir, the wool is sold to the merchants at Kashmiri Rs. 4.8 or Company's Rs. 2.10 per seer. The average quantity of shawl-wool exported from Ladakh to Kashmir and other places is about 16 loads or 6100 maunds of 16 seers each, half of which goes to Kashmir alone. The average price in Ladakh is about two rupees per seer, or £20,400 a ton. Each shawl goat yields about half a seer. The goats are about 80,000 in number, and their value £32,000, each goat being priced at four rupees. The Kashmirian merchants purchase the wool at Leh, at the rate of 80 pul (small handfuls) for a small rupee. Shawl-wool is produced most abundantly and of the finest quality in the steppes between the Shayuk and the main branch of the Indus. About £10,000 worth may be carried down the Sutlej to Ludhiana and Delhi. Mr. Moorcroft estimated the importation into Kashmir alone at £75,000 of value, and the annual value of the shawl manufacture of Kashmir at £300,000.—*Vigne: Cunningham; Hooker's Journal*, ii. p. 88.

SHAWLS.

SHAWLS.

SHAWLS.

Chals, Chales, . . . FR.	Chales, PORT.
Schalen, GER.	Schavalos, SP.
Shal, GUJ., HIND., PERS.	Saluvaigal, TAM.
Shavali, IT.	Saluvalu, TEL.
Kayin-rambut, MALAY.	

In eastern countries the shawl is considered the most essential and graceful part of ornamental dress, and in India it was by no means unusual to pay 10,000 rupees (£1000) for one of the finest Kashmir shawls, which in all probability had cost the labour of a whole family for a lifetime. Those by far the most valuable are taken by native rulers.

In the 11 years 1850-61, the Kashmir shawls exported from India were valued as under:—

1850-51, £171,709	1854-55, £197,890	1858-59, £310,027
1851-52, 146,270	1855-56, 209,279	1859-60, 252,828
1852-53, 215,659	1856-57, 290,640	1860-61, 351-093
1853-54, 170-153	1857-58, 227,618	

Of the above, 80 per cent. was shipped to the United Kingdom, Suez, the Arabian and Persian Gulfs,—America, France, and China taking the remaining part. The imports and exports in latter years were as under:—

	Imports.		Exports.	
	No.	Rs.	No.	Rs.
1875-76, . .	321,284	10,14,939	30,053	16,12,980
1876-77, . .	255,262	7,55,823	28,385	16,69,132
1877-78, . .	271,460	7,09,037	32,970	15,08,535
1878-79, . .	427,412	9,85,341	26,113	12,40,116
1879-80, . .	446,582	9,23,554	21,493	8,88,432
1880-81, . .	499,896	5,93,818	26,601	15,01,786
1881-82, . .	678,824	7,59,331	16,652	12,41,640
1882-83, . .	813,585	8,19,310	12,090	7,71,718

Although in many branches of textile manufacture Europe has outstripped her oriental teacher, there is still found among the workmen of the east a degree of taste in the adjustment of their designs, an amount of skill applied to the getting up of the fabric and the blending of patterns, and colours so aptly combined, as to leave nothing to be desired, but rather to show that what Europe is now arriving at in arts design by the aid of scientific teachings, has been practised amongst those ancient races during the last thousand years. The correct principle which science has laid down in the schools of the west, that the patterns and colours of woven goods should diversify plain surfaces without disturbing the impression of flatness, has evidently been known to them from the earliest times. Nor is it in this alone that the workmen of the east excel; they are equally celebrated for the rich and varied beauty of their patterns, and the strict appropriateness of these to the colours employed. Foremost amongst the woven fabrics are the world-famed shawls, the finest of which, in spite of many imitations in Europe, are still produced in the vale of Kashmir. From the neck and underpart of the body of the wool goat is taken the fine flossy silk-like wool, which is worked up into those beautiful shawls with an exquisite taste and skill, which all the mechanical ingenuity of Europe has never been able to imitate with more than partial success.

From the Ayin Akbari, written in the 16th century, we gather that the emperor Akbar encouraged the manufacture of these shawls by every means in his power, even designing some himself, and introducing a greater and richer

variety of colours in their patterns. The same work informs us of the extension of this manufacture to the State of Lahore, where it is said there were then 1000 manufactories employed on them. A mixture of wool and silk for turbands is also spoken of. Akbar was very fond of woollen stuffs, especially of shawls. He ordered four kinds to be made. First, Toos Aasal, which is wool in general grey, inclining to red, though some are perfectly white, and these shawls are incomparable for lightness, warmth, and softness. Formerly they were always made with wool in its original state, but His Majesty had some of them dyed, and it was said that they will not take a red colour. Secondly, Safed Alcheh, which they also called Terehdar. The natural colours of the wool are white and black, and they wove three sorts of them,—white, black, and grey. Formerly there were not above three or four different colours for shawls, but Akbar had them made of various hues. Third, Zerody, Gulabatun, Kishydeh, the Bundhenun, Cheet, Alcheh, and the Purzdar, which were of His Majesty's invention. Fourth, from being short pieces, he had them made long enough for Jamahs. His Majesty introduced the custom of wearing two shawls, one under the other, which is a considerable addition to their beauty. By the attention of Akbar, the manufacture of shawls in Kashmir was in a very flourishing state, and in Lahore there were upwards of 1000 manufacturers of this kind. They also made an imitation of shawls with the warp of silk and the wool of wool, and this kind were called Mayan. Of both kinds were made turbands, etc.

This is now by far the most important manufacture in the Panjab; but it was almost entirely confined to Kashmir, until about 1820; a terrible famine visited Kashmir, and, in consequence, numbers of the shawl-weavers emigrated to the Panjab and settled in Amritsar, Nurpur, Dinanagar, Tilaknath, Jalalpur, and Ludhiana, in all of which places the manufacture continues to flourish. The best shawls of Panjab manufacture are made at Amritsar, which is also an emporium of the shawl trade. But none of the shawls made in the Panjab can compete with the best shawls made in Kashmir itself,—first, because the Panjab manufacturers are unable to obtain the finest kinds of wool; and, secondly, by reason of the inferiority of the dyeing, the excellence of which in Kashmir is attributed to some chemical peculiarity in the water there. On receipt of the raw pashm or shawl-wool, the first operation is that of cleaning it; this is done generally by women. The best kind is cleaned with lime and water, but ordinarily the wool is cleaned by being shaken up with flour. The next operation is that of separating the hair from the pashm; this is a tedious operation, but the value of the cloth subsequently manufactured varies with the amount of care bestowed upon it. The wool thus cleaned and sorted is spun into thread with the common churka or native spinning machine. This is also an operation requiring great care. White pashmina thread of the finest quality will sometimes cost as much as £2, 10s. a pound. The thread is next dyed, and is then ready for the loom.

Plain shawls are simply woven with a long, narrow, and heavy shuttle, but variegated shawls are worked with wooden needles instead of a

shuttle, there being a separate needle for each colour.

The shawls are made both long and square, the former generally measuring 54 inches wide and 126 long, the latter 63 to 72 inches square. In some parts of Asia these shawls are worn just as they come from the loom; but all those destined for India are carefully washed and packed near Lahore.

About A.D. 1860, the maharaja of Kashmir, to check the deterioration in the quality of shawls manufactured in his dominions, issued the following circular:—

Be it known that in the city of Sircce Nugger, alias Kashmir, a paradise on earth, the number of men and women employed in the occupation of shawl-weaving aggregates 70,000, and, in fact, nearly all the inhabitants of this far-famed city are connected with the trade. That owing to the dulness of the market in England and France, caused chiefly by the inferior description of shawls manufactured, many tradesmen and merchants have been subjected to heavy loss and some to bankruptcy, and a large proportion of the weavers have been thrown out of employ. On the maharaja's late tour through Kashmir, the circumstance occupied his chief attention, and from the information he obtained he ordered the following rules to be established in order to serve both manufacturers and traders:—

1. Shawls to be uniform in size as follows:—Ladies' shawls, $3\frac{1}{2}$ yards by $1\frac{1}{2}$; turbands, 2 yards by 2; jama-war, $4\frac{1}{2}$ yards by 3.

2. Any shawl badly wove to be destroyed—the value to be recovered by the proprietor from the weaver. Should the fault lie with the proprietor, he will be punished by the Government.

3. A designer is at liberty to dispose of his designs, but should he attempt to conceal any part of a design which is purchased from him, he will be severely punished.

4. Any person convicted of robbing a firm of a design will be severely punished.

5. One designer is not at liberty to transfer designs to another, and as the Government has now relinquished the tax, it is hoped that there will be considerable improvement in the art.

6. Not more than six shawls are to be wove from one design, or a heavy fine will be inflicted.

7. The seller of a design is not to retain a duplicate or attempt to form another exactly like the one sold; in such case a fine will be levied equal to $\frac{1}{4}$ th its value.

8. In future, duty will be levied by measurement of wool and wored, and not by weight as heretofore; this will induce spinners to produce a finer description of the material, and will be more profitable to the wearer.

9. His Highness, taking into consideration the distressed condition of all manufactories for want of sufficient funds, and seeing that tradesmen are not disposed to assist them with advances, has placed in the hands of Pandit Hunna Nundjoe and Hajee Mooktiar Shah, a sum of Rs. 1,00,000 for the purchase of raw material, the same to be delivered proportionately to manufacturers, the value of which is to be refunded to Government on the sale of shawls.

10. His Highness the maharaja is greatly indebted to Dewan Kirparam, who, from his experience, had assisted greatly in framing these rules, and encouraging this important branch of manufacture.

A weaving-shop may be occupied with one shawl, provided it be a remarkably fine one, above a year, while other shops make six or eight in the course of that period. Of the best and most worked kinds, not so much as a quarter of an inch is completed in one day by three people, which is the usual number employed at most of the shops. Sometimes, in order to hasten the process, a shawl is made in separate pieces in different looms, and the pieces are afterwards sewed together. This is done with great dex-

terity, so that it is not immediately detected. It very rarely happens that the pieces, when completed, correspond in size. The shops consist of a framework, at which the persons employed sit on a bench; their number is from two to four. On plain shawls, two people alone are employed, and a long, narrow, but heavy shuttle is used; those of which the pattern is variegated are worked with wooden needles, there being a separate needle for the thread of each colour; for the latter no shuttle is required. The operation of their manufacture is, of course, proportionate to the quantity of work which their patterns may require. The Ustad, or head workman, superintends, while his journeymen are employed near him immediately under his directions. If they have any new pattern in hand, or one with which they are not familiar, he describes to them the figures, colours, and threads which they are to use, while he keeps before him the pattern on which they happen to be employed, drawn upon paper. During the operation of making, the rough side of the shawl is uppermost on the frame, notwithstanding which the Ustad never mistakes the regularity of the most figured patterns. The wages of the Ustad (the employer furnishing materials) are from six to eight pice per day; of the common workmen, from one to four pice in Kashmir may be about three halfpence.

The shawl bafs, or weavers, of the Panjab, according to their means, keep up an establishment of from 300 to 400 Shagird or apprentices of children from five years of age, to old men and women of eighty; or else they supply a certain number of overseers, called Ustad, with yarn, delivering to them at the same time instructions as to the quality, colour, patterns, etc., of the goods, and these men carry on the manufacture at their own houses, with the help of ordinary weavers.

Though the shawl-weavers of Kashmir are thus scantily rewarded, the fabric they produce has often been sold in London at from £100 to £400 the shawl. But it is fair to state that the manufacture of a remarkably fine and elaborate shawl will sometimes occupy a shop for a whole year, two or three or perhaps four persons being constantly engaged on it.

The shawls are divided into two great classes, viz. woven shawls, called Teliwala, and worked shawls. Shawls of the former class are woven in separate pieces, which are, when required, sewn together with such precision that the sewing is imperceptible. These are the more highly prized. In worked shawls, the pattern is worked with the needle upon a piece of plain pashmina or shawl-cloth.

Many shawls are made up of pieces, sewn together by a refugar with such delicacy that the suture is imperceptible. Merchants take advantage of this. When they buy a shawl which they think only partly good, they cut out of it such parts as displease them. They then draw on paper a design for a new piece to fill up the gap, and give it to a shawl-weaver to execute. As soon as the new piece is completed, it is sewn into the shawl, which is entirely changed in appearance, and often immensely increased in value by the process. Shawls are often purchased with indifferent borders, and improved by putting new ones on. The border is always worked on a web

of silk, as this gives it weight and solidity, and causes the whole fabric to set well.

In Kashmir, when a shawl is about to be made, a small square piece showing the design, by way of pattern, is made and carried to the maharaja's inspector. On approval, the piece is worked into the shawl.

Great complaints have been made by European firms of the adulteration of the texture of Kashmir shawls, and there is no doubt that such adulteration was practised, especially by mixing up Kashmir wool with real pashm. In order to provide some guarantee against this, it was proposed that a guild of respectable traders should be formed, who should be empowered to affix on all genuine shawls a trade-mark, which should be a guarantee to the public that the material of the shawl is genuine pashm. At a meeting of merchants connected with the shawl trade, held at Amritsar in 1861, to consider the then depressed state of the shawl trade in the Panjab, and its causes, taking an average of ten years, the transactions in shawl goods amounted to nearly £500,000 per annum, of which a large proportion belonged to Amritsar and its shawl dependencies, and the proportion of the Panjab trade to that of Kashmir was then stated to be as 3 to 6. The chief shawl-brokers in London and Paris had urgently impressed upon the Amritsar merchants the suicidal policy of sending to the market shawls made of adulterated wool, for unless the manufacturers abstained from mixing sheep's wool with the pashm, or from using inferior pashm, the trade would undoubtedly die out. Adulteration was caused by the fraudulent admixture of coarse sheep's wool, such as Kirmani, Tibet, and even country lamb's wool. The beauty of a Kashmir or Amritsar shawl depends as much on the brilliancy and durability of its unrivalled colours, and their being carefully harmonized, and the material of which it is made, as on the quality of the workmanship. Sheep's wool, however fine, never does assume that permanent brilliancy of colour which is the peculiar character of the pashm. Kirman, the ancient Carmania, has been celebrated from the days of the Persian empire for its woollen shawls, though they never were able to compete with the Kashmir manufactures in softness or brilliancy. The wool obtained from the Kirman sheep is long and somewhat thick and silky, but it does not retain the bright colours which distinguish a genuine Kashmir shawl. It is somewhat cheaper than the best shawl pashm, and, being thicker, is more economical for the manufacture. The merchants, attracted by the apparent advantages of the Kirman wool, and knowing nothing of the hidden dangers in its use, largely adopted this wool as an admixture with the genuine pashm.

Colonies of Kashmiri settled in the Panjab are known by their fair complexion, their peculiar dialect, their way of closely shaving the head, and wearing small skull-caps. These people have emigrated at various times from Kashmir. They are divided among themselves into several gradations, and, like all Musalman races, have no restrictions on marriage, except immediate relations; marriages with first cousins are not only allowable, but frequently occur. They are almost exclusively employed in the shawl trade. There are two classes in the profession, the master workmen or Ustads, and the apprentices or Shagirds.

The former supply the capital, and the apprentices earn their livelihood by task-work. The more opulent Kashmiri not only keep large manufactories for shawls, but trade in wool and other produce of Ladakh and Chinese Tartary. The rooms devoted to the workmen are long apartments with looms placed in the centre, and benches ranged parallel for the weavers; they are well lighted and airy; the workmen, all males, sit hard employed the whole day, and sometimes enliven the labour by singing choruses. They are a discontented and quarrelsome race, very deficient in personal courage, but so litigious, that their disposition for law has become a proverb.

They speak a dialect intelligible only to themselves, though they are also conversant with the vernacular. The shawls of Nurpur and Tilaknath are not much prized; the work is inferior, but the great cause of inferiority is the hardness of the water, which communicates a roughness to the shawls, greatly detracting from their marketable value. The Kashmiri themselves say that there is no water like the river Jhelum, and that the superiority of the shawls of the valley is mainly ascribable to the virtue of the water. The weavers of Kashmir possess also greater artistic qualifications, since none but the worst, who fail to get a livelihood in their native country, would consent to leave the charming valley for the heats of the Panjab and the discomforts of a strange country. The present population consists almost entirely of the descendants of original emigrants, and are now acclimated. They still retain the dress and dialect of Kashmir, and are constantly reinforced by new arrivals from the valley. In the cold winter months, the women adopt a peculiar custom of carrying under their frocks little pans of heated charcoal, over which they warm their hands, and maintain the circulation, like English ladies with their muffs.

The shawls of Nurpur are scarcely ever found in the foreign market, while those of Amritsar and Gujerat are sold in London and in France in considerable numbers.

The Deputy Commissioner of Gujerat, writing in August 1861, reported that at the last sale in London, the Gujerat shawls had sold at a loss of four annas in the rupee, and those of Amritsar at a loss of eight annas, or 50 per cent., the Kashmiri genuine shawls realizing a profit of 25 per cent.

In Ludhiana there are as many as 500 shops of pashmina workers, giving occupation to more than 1000 persons; the regular pattern shawl is much less woven than plain pashmina alwan, gloves, and stockings, etc., of pashmina thread. Of these fabrics about Rs. 70,000 worth are annually exported, but by far the largest manufacture is that of the shawls and chadars made of soft Rampuri wool, and which is often passed off as pashmina or genuine shawl-wool. Of these fabrics no less than Rs. 1,30,000 worth are annually made and exported. The import of real pashmina wool from Rampur amounts to about Rs. 30,000 or 40,000 a year, that of Rampuri wool about Rs. 20,000. A number of Rampur chadars are, however, made of real Kashmir pashm.

The Amritsar shawl-weaving approaches nearest in excellence to the Kashmir valley. In this city several European merchants and agents have been supervising the manufacture and furnishing designs. In the Amritsar district, according to

Mr. Cust, the total number of houses of Kashmiri shal baf is 6193, of which 5111 are in the city itself.

Amritsar, besides being the seat of manufacture, is also an emporium of the Kashmir shawl trade. At one time the shawl manufacture of Amritsar had so deteriorated, from the use of mixed or adulterated pashm, that the trade was threatened with extinction in Europe, and in 1861 large meetings were held at Amritsar with a view to the adoption of measures to prevent adulteration, — a considerable and fraudulent admixture of coarse sheep's wool. On the other hand, it was maintained that the difficulty of ascertaining, by the most experienced judges, before shawl goods are washed and exposed for a while to the action of the air, the amount of a mixture, if any, that may have taken place in the weaving of shawls; — and it may be here mentioned that the length of the staples of sheep's wool offering great facilities in spinning the thread is the chief inducement to its being used, the pashm being very short, and consequently more difficult to spin; secondly, the total indifference of the manufacturers to the frequent and urgent remonstrance of the dealers against practices which they were assured would lead to the discovery of frauds that must affect all interested in the trade and manufacture of shawl-wool goods.

The principal kind of wool used in adulteration was a soft white wool imported from Kirman. A shawl even of adulterated pashm still sells for double what a shawl of sheep's wool would, though the work would otherwise be the same.

The shawls designated in India are—

Shal-kitani-kar, a shawl woven of twisted thread, giving it a peculiar, regular, serrated texture.

Shal-sada, a plain woollen shawl without embroidery.

Shal-doridar, a shawl having a dori or edging.

Do-shala is a double shawl.

Formerly, Kashmir shawls were exquisitely woven, with an elegance and chasteness of design, softness and finish in quality, arrangement of colours and use of dyes, which the finest Paisley and French shawls do not approach. These exquisite shawls of Kashmir became rarer, and their place was usurped by hand-embroidered fabrics of lower value, with more showy and more vulgar patterns. In the Panjab and in Dehli, also, workmen commenced to embroider Kashmir cloths and net with floss silk and braid, for sale to Europeans, who wear them as tunics, jackets, scarfs, and the like. In the hand-worked Kashmir shawls, as also in the Dehli work, wooden needles of hard wood are used, slightly charred, with a hole in the centre of the needle to receive the yarn. The scarfs of brocaded gold and silver, laid upon red, white, and green grounds, and worked in and interspersed with beetles' wings and other ornaments, are admired by Europeans. One of the causes of deterioration in this manufacture has been in Europeans inducing the weavers to produce fabrics of a style far inferior to the artistic articles of the Kashmiri.

Paris shawls are principally of the kind known as French Kashmir, in which, by the aid of the draw-loom and of the jacquard, a surface appearance is given precisely similar to that of the oriental shawls. The figures and colours of Indian shawls are faithfully copied, and the yarns

of the weft are not only equal in number to the colours of the pattern, but there are also as many little shuttles or pirns filled with these yarns as there are colours to be repeated in the breadth of the piece. Each of these small pirns or bobbins passes through only that portion of the flower in which the colour of its yarn is to appear, and stops on the one side and the other of the cloth exactly at its limit; it then returns upon itself, after having crossed the thread of the adjoining shuttle. From this reciprocal interweaving of the various yarns of the shuttles, it happens that, although the weft is made up of a great number of different threads, yet they form a continuous line in the whole breadth of the web, upon which the lay or batten acts in the usual manner. The great art consists in avoiding confusion of the shuttles, and in not striking up the lay till all have done their part. A woman, assisted by two girls, is able to conduct the whole operation. But this close imitation of the oriental shawl is a very slow process, and therefore the shawls must be necessarily costly. Lyons is famous for its 'Tibet' shawls, the weft of which is yarn, with a mixture of spun silk. The shawls of Nismes are celebrated for their low price, and the ingenuity with which spun silk, Tibet down, and cotton are all worked up together.—*Powell, Panjab; Moorcraft, Tr.; Watson; Tomlinson; McCulloch; Cal. Cat., 1862; Faulkner, Kashmir and its Shawls; Times of India.*

SHAYUK, a valley and river in the N.W. Himalaya. The river rises near Kara-korum pass, runs S.E. to N.W. into Indus near Iskardo; length 300 miles. It receives the Chang-chu-mo 58, and Nubra river 66 miles. Floods have at different periods devastated the whole course of the Shayuk valley, from the glaciers of Sassar. These floods appear to be due to the blocking up of the upper course of the river by the ice, and have been most destructive to the prosperity of the valley. An encamping-ground on the plain of the Shayuk river is called by the Turki merchants Murgai, by the Tibetans Murgu-chumik.—*Thomson's Tr.*

SHEA BUTTER is a solid oil obtained from the nuts of *Basia Parkii* or *Pentadama butyracea*, a tree of the interior of W. Africa. The nuts are allowed to ripen on the tree, and are gathered from the ground in the morning by women and children. The pulp surrounding the nuts is rubbed off, and generally eaten. As a fruit it resembles an over-ripe pear; but it is too sweet to be much relished by Europeans. The nut is next dried by exposing it to a slow heat in large clay caldrons with perforated bottoms. This, besides carrying off moisture, causes the nut to shrink in its shell, of which it is divested in the next operation, viz. threshing. This is done on floors, or sometimes it is done in large wooden mortars instead. The nut, now free, is next thoroughly pounded with pestle and mortar, then ground between stones; at this stage it looks just like black mud in paste. This mass is washed in cold water, then boiled till the butter rises white, and is skimmed from the surface. Shea butter remains hard at a high temperature when well prepared, and does not become rancid with age. It has a slightly smoky taste, acquired during its preparation. Some people dislike it. It has been used in cooking; and Mr. Barter lived on it and yams without inconvenience. It is also called *Galam*

butter.—*Letter from Mr. Barter to Sir William Hooker.*

SHEBA, mentioned in Ezekiel xxxviii. 13. 'The merchants of Sheba and Raamah,' etc.; 'Haran and Canneh and Eden, the merchants of Sheba, Aashur, and Chilmad,' etc., Ezekiel xxvii. 22, 23. The Balad-ul-Jahaf, a district of Yemen, is the land of Sheba, the Ard-us-Shaba, so called to the present day by the Arabs. There are two hills of Balak in the district, 600 paces apart, between which a queen of Sheba built a masonry dam, which burst, and the bursting is famed as the Sail-ul-Arun. Balkees, queen of Sheba, was stated to Soliman to have hairy legs; the Koran (ch. xxii.) mentions the plan he adopted to ascertain the fact.—*Onseley's Tr.* i. p. 336.

SHECHEM, the modern Nablus, has in its neighbourhood the two mountains, Gerizim and Ebal, each about 2500 feet high, with Joseph's tomb and Jacob's well at the eastern end of the valley, the former near the foot of Ebal, and the latter near the foot of Gerizim. One Tur is the mountain mass near Sinai. Another Tur, the Et Tur, is Mount Gerizim near Nablus. Shechem was made the metropolis of the conquering Israelites. Jerusalem only became of importance after the vision of David in 2 Chronicles iii. 1. It was from Gerizim and Ebal that Moses ordered the law to be read. It was here that the field was bought by Jacob (Genesis xxxiii. 19). Shechem of Samaria (Josh. xx. 7) was a refuge city. See *Basit*.

SHEEP.

Paar,	DAN.	Casneiro,	PORT.
Schaap,	DUT.	Owzi,	RUS.
Brehis, Mouton,	FR.	Avi,	SANSK.
Schafe,	GER.	Pecora, Ovejias,	SP.
Ois,	GR.	Far,	SW.
Bhera, M'henda,	HIND.	Luk,	TIBET.
Gosfand,	PERIS.	Koyun,	TURK.

The shawl goat, and a dwarf variety (black, with short horn), also a race of blackfaced sheep, and the dumba or broad-tail, are reared in Ladakh in great numbers. Four-horned varieties of this sheep are not uncommon. The blackface, or hunniiah, stands high, and is a handsome animal. Moorcroft says (*Tr. R. As. Soc.* i. p. 51) the Purik sheep of Ladakh gives two lambs in a twelvemonth, and is twice shorn in that period. Good ewes appear to be obtained in Coimbatore and Baramahal; but Jalna and Beder used to be the best places whence to obtain the white-woolled breed. The results obtained both at Bangalore and on the Neilgherry Hills, from crossing the white-woolled sheep of the country with Saxon, Merino, and Southdown rams, have been satisfactory, both as to quantity and quality of wool, and size of carcase. At the Madras Exhibition of 1855, of specimens of woollen manufactures, the most remarkable were those from Hoonsoor, comprising white and coloured blankets of various textures made in the native loom, some being imitations of English articles, and a decided improvement upon the country cumbli, and cheap in price. In Mysore, the wool is largely used in carpet manufacturing. In the Mysore country sheep thrive well. About the year 1840, General Cubbon collected a flock at a farm about 60 miles west of Bangalore, and imported three or four rams annually from Sydney; these amalgamate so well with the country sheep, both in figure and size, that in the fourth cross it was not possible to distinguish

farm-bred from the imported ram. (See *Ovis*.) Sheep skins are employed for purposes for which a thin, cheap leather is required, such as for common bookbinding, leathering for common bellows, whip-lashes, bags, aprons, etc. Sheep skins also form the cheaper kinds of wash-leather for breeches, gloves, and under-waistcoats; as also coloured and dyed leathers and mock morocco, used for women's shoes, for covering writing-tables, stools, chairs, and sofas, lining carriages, etc.

SHEETALA. **SANSK.** Cold. In Hindu mythology the goddess who cools the body when afflicted with the smallpox; she receives many honours from the lower orders of Hindus.

SHEETALA-PATI, from Sheetala, cold, and Pati, a mat, from Pat, to move. The mat is from the Maranta dichotoma.—*Ward's Hindoos*.

SHEETAH or Shafta, called in Syriac Agal, is a skein of camel's wool thread, about nine feet long, bound at distances of about twelve inches with silk and gold thread. It is wound round the kufia, forming a large turband, and is principally worn by the Anazeh.—*Hamilton's Sinai*, 183.

SHEKHA WATTI. This province extends about 80 miles from north to south, and less from east to west. It has the extensive dominions of the raja of Jeypore on the south, on the east the dependencies of the British Government, on the west the territories of Bikanir, and on the north-west it has the barren country of the Batti clan, formerly a plundering tribe, remarkable for carrying on their depredations on foot, and still more so for the length and rapidity of the incursions thus made. On the north is Hurriana, the scene of the exploits of George Thomas.—*Elphinstone's Caubul*, p. 3.

SHEK-U. **CHIN**. A mineral substance used in China as a dentifrice, also as a tisan in fevers. It is brought from the north of China, and is said to be gypsum or alabaster.—*Bennett*.

SHELL.

Sadaf,	ARAB.	Sipi,	HIND.
Ecaille,	FR.	Conchiglia,	IT.
Coquille,	GER.	Cacarra,	SP.
Schale,	GER.	Kabuk,	TURK.

The ordinary shell is the protective covering of the molluscous class of animals, in most cases large enough to enclose the whole body of the mollusc, but in some cases it is interior, and only of sufficient size to protect the heart and lungs. The snail affords a familiar instance of an external shell. Shells are called univalve or bivalve, according as they consist of one part, or of two parts joined together by a hinge. The snail is univalve, the oyster is bivalve. The generality of the bivalve shells, including various oysters, mussels, etc., are termed nacreous shells, from Nacre, the French for mother-of-pearl. The so-called shell of the tortoise is a horny covering, and it is obtained from Ceylon, the Eastern Archipelago, France, Trinidad, etc. The glistening lining of oyster shells, known as mother-of-pearl, is manufactured into articles of great beauty. Most of the univalve shells are of the character called porcelaneous, from their brittleness, translucence, and the resemblance of their fracture to that of porcelain.

The trade in shells is one of extreme antiquity in Ceylon. The Gulf of Manaar has been fished from the earliest times for the large chank shell, *Turbinella rapa*, to be exported to India, where it

SHELLAC.

is sawn into rings, and worn as anklets and bracelets by the women of Hindustan, Dacca being the chief place of manufacture. Another use for those shells is their conversion into trumpets, which are sounded in the Hindu temples on all ritual occasions. A chank, in which the whorls, instead of running from left to right, as in the ordinary shells, are reversed, and run from right to left, is regarded with such reverence that a specimen formerly sold for its weight in gold, but one may now be had for £4 or £5. Abu Zaid, an Arab, who wrote an account of the trade and productions of India, speaks of these shells by the name they still bear, which he states to be Schenck. In general, shells are more prized for their beauty than valued for their rarity, though Argus cowries have been sold as high as four guineas a pair.

One of the principal sources whence the Ceylon supplies of shells are derived is the beautiful Bay of Venloos, to the north of Batticaloa, formed by the embouchure of the Nator river. The scenery at this spot is enchanting.

Shells are used as a flux in the furnaces instead of lime, and along the coast, near Madras, the finest plaster is made from calcined shells. The *Placuna placenta* or window shell is still used as a substitute for glass.

The chanks and large ornamental shells imported into India are between 7 and 8 millions annually, valued from about two to four lakhs, and from 21 to over 28 million cwt. of cowries, valued about a lakh.

Shell middens occur at the mouth of one of the rivers of Perak.—*McNair*, p. 23; *Tomlinson*; *J. Ind. Arch.*, 1847; *Tennent's Ceylon*; *Cosmas Indicopleustes*, in *Thevenot*, i. p. 21.

SHELLAC or Shell-lac, Chaptal-lac, HIND., is the most common form in which lac is generally known; it is the substance liquefied, strained, and formed into thin transparent laminae.—*Faulkner*.

SHEMSAQ, an inferior deity of the Kuki. A rude block of wood put up in every quarter of a village; to it a goat is offered, and they place before it the heads of the slain in battle, or the heads of animals killed in the chase.

SHEN. SANSK. TAM. Meaning fine, beautiful, the Schöne of the Germans. It is applied in several ways. The Shen Tamil (Sen Damir) is that in which Tamil classical poetry is written, and differs considerably from what is termed Kodun Tamil, common Tamil, the spoken language of the people.

SHENDOO, a Burmese tribe, who call themselves Heu-na, and dwell in the mountains north of Arakan. The Khyoung-tha, or children of the river, are of Arakanese origin, speak the old Arakan dialect, and conform to Buddhist customs. The Toung-tha, or children of the hills, are of mixed origin, if indeed they are not aborigines of the country. They speak numerous dialects, and worship the deities of the elements and spirits of the hills and streams. The Shendoo occupy the very remote mountainous country at the heads of the several rivers. They are said to comprise twelve powerful clans, whose habitations extend from the Blue Mountain to Cachar and Burma proper. They are much feared, but little or nothing is known respecting them. Captain Lewin describes them as much taller than ordinary hillmen, and of much fairer complexion; and the faces of those he saw bore no signs of that

SHEPHERD.

Mongolian type of physiognomy which generally prevails amongst the Toung-tha tribes. Both males and females are more decorous in their dress than the other hill tribes, and field labour as a general rule is performed only by the men, and never by the women, excepting in the case of poverty. The Shendoo possess muskets which do not appear to be of European manufacture; the stocks are painted red, black, and yellow, and are highly varnished. Their powder-flasks are made of gyal horns, and are polished and beautifully inlaid with silver and ivory. Captain Hughes, in charge of the Arakan hill tribes, writing in 1872, mentioned that they have no Ka-mi, or Koo-mee, or Quay-mee; Koon, or Mru. The Shendoo tribe divides itself into five or six branches, who each speak a different dialect, the most powerful of whom are the Shaing Tee and Tna-krai-mi, the latter approaching Burma proper, Chyn or Khyn. Dr. Mason never before A.D. 1872 heard of the Tee and Tna-krai-mi, but thought it probable the names only are new.—*Dr. Mason in Uteris*.

SHENG-KWANG, a Chinese pupil of Ta-mo, the Indian putriarch Bodhidharma. At the town of Yu-hwang he is represented standing before Ta-mo, holding his own left arm in his right hand, which he had just cut off near the shoulder as a sign of his devotion and dominion over the body. This is said to have taken place in the 5th century.—*Dr. Edkin*.

SHEN-SI, one of the most extensive Chinese provinces, but the western part of it has been erected into a province under the name of Kan-su.

SHENSOY. The Parsees in India have two sects, the Shensoy and Kudmi, whose only dissimilarity arises from their different mode of computing, since 1746, the era of Yezdejird, which occasions a difference amongst the two sects as to the time of celebrating their festivals. The numbers of the Shensoy ten times exceed those of the Kudmi.

SHEORANEE HILLS, a little south of the Goomul river, stretch from the latitude of Dehra Ismail Khan, downwards to nearly the latitude of Dehra Futeh Khan, a distance of fifty miles. In these hills is the lofty square-shaped mountain, Takht-i-Suliman, which gives its name to the Sulimani range, running parallel for 300 miles to the Indus, and forming the western frontier of British India. At the base of this mountain runs the important Zerkunni pass, the high-road for caravans to and from Kandahar. The Sheoranee tribe are of Pathan lineage, are of inferior stature to the Waziri; they are warlike and predatory, and quite independent. The number of their fighting men has been set down at 10,000; but this is high. They can muster 1000 men within a day's notice; in the course of three or four days they will muster 3000 more. They adjoin the British tracts of Tak (partially) in the north, then Kolachee, then Durrabund, and lastly Choudwan, —all in the Dehra Ismail Khan district, and forming the border plains of the Upper Dehrajat. With all the above tracts, the Sheoranee, up to A.D. 1850, had been at feud.

SHEPHERD. Most of the nomade races of Asia are shepherds. The Israelites largely herded sheep. Moses herded the flock of his father-in-law Jethro, a priest of Midian. David tended his father's sheep. The chief shepherds of the S. of India are the Kurumbar race, their name being from Kuru, a sheep. Oree golla wanloo, Koraba galla wanloo,

Hunde koraba wanloo, are divisions. In the Tamil country, shepherds are divided into many classes, as Manyakarar, Kuruku, Pavalangatte, Sambar, the Sival Idyar, etc. They are called Pillay and Kouar. The Dhangar shepherd race are a very numerous body. There are 55,947 Dhangar in the Berars, a quiet race, who wander in search of pasture for their herds and flocks, but often return to their settled homes on the plains or mountains. The temples in which they worship their deities are piles of large unhewn stones, resembling the places of worship of the old Druids. These people render great service to cultivators, who invite them with an offer of a reward to pen their flocks in their fields, so that they may leave behind them valuable manure. The founder of the Holkar family of Malwa sprang from this race. The shepherds of India have a custom, which is purely Asiatic, of preceding their flocks to pasture. 'He shall feed me in a green pasture, and lead me forth beside the waters of comfort,' said the Psalmist; and the daily custom of the shepherd tribe of Hindustan proves that this poetical and beautiful simile was drawn from the practice of common life. The Ahir of Northern India now rear cattle, though seemingly in former times shepherds. Near Benares there are sixteen clans. The Ahar of Moradabad and Rohilkhand seem identical with the Ahir. The Gadariya of Hindustan rear sheep and goats. The Rewari of the Rajputana oases rear camels.

SHEPHERD'S PURSE, *Capella Bursa Pastoris*. Tsai-tsai, Ti-mi-tsai, CHIN. In China the plant is largely eaten as food by the poor. The root is used in ophthalmia.—*Smith*.

SHER. PERS. A lion, a tiger. The title Sherwa-Khushid (lion and sun) was devised in 1808 by Fat'h Ali Shah, to decorate foreign envoys and Europeans who had rendered important service to Persia. It is never conferred on any Persian officials.

SHER AFKUN, a famous athlete. His victory over a tiger is a recorded fact in Moghul history. He lies buried in old Bardwan, far away from the place of his birth in Turkomania.—*Tr. of Hind. i. p. 157*.

SHER-DALA, in Hindu sculpture, conventional lions, the emblems of the Hoisalu Bellala dynasty.

SHERIF. ARAB. Noble; in British India, a lineage social title of a Muhammadan whose father was a Shaikh and mother a Syudani; also the title of the ruler of Mecca. Hamilton, an old writer, describes the Sherif of Mecca of this day as having three slashes on each side of the face, called masha-ly, which though then falling into disuse, had been the mark of all persons born within the sacred territory. In his hand he carried the mashab, the camel-stick of almond-wood, which is undoubtedly the original of the jackal-headed wand with which some of the Egyptian deities are represented, and which is here almost regarded as the symbol of royal power. In his Kashmir waistband was stuck a poniard with a gold and jewel-studded handle.—*Hamilton, Sinai, p. 116*.

SHER KHAN, an Afghan who raised a large force in Bengal and drove the emperor Humayun from the throne. He reigned about five years, and was killed by the explosion of a magazine. He was an able soldier. He was succeeded by his son Selim, who reigned nine years.

SHERKI. ARAB. The east wind of Scripture.

Rich notices an exclamation, 'The sherki is come!' As soon as this wind came on, the thermometer rose ten degrees, from 80° to 90°. The so-much-dreaded sherki seems to blow from any quarter from E. to N.E. It resembles the Italian sirocco, pronounced scirocco, and no doubt the same word as sherki, i.e. easterly. The Kurds call it Baya Rish, or black wind.—*Rich's Kurdistan, i. p. 125*.
SHERKIST. HIND. A sort of magna found on the Hedysarum alhagi, one of the Leguminosæ, produced principally in Kabul. It occurs in unequal, dark-brown pieces, of a bitter-sweetish taste, and is mixed with the stalks of the plant on which it is produced. It is used by the natives as a laxative and refrigerant in fever, in doses of ʒj. It is imported into India from Kabul and Khorasan.

SHERKUN, a six-pointed diagram, for which the Brahmans have several mysterious names; but it is generally called sherkun, which means little else than six-pointed. If it have five points, it is also replete with mythological allusions; Siva and Brahma have, or had, five heads. The diagrams have also mathematical properties of a mysterious description; and they serve, like the fox and goose or solitary boards, for a game, played with cowries or with dice, guiding the movements of the men. It is a popular game, and the instruments of play are always at hand; the lines drawn in the dust with the finger, and a few stones picked up, can furnish the means of gaming. Cowries being used as money, two or three of them are rarely wanting to a party disposed to play. The triangle is called trikun, which it literally means, and has been explained by a Brahman as the symbol of certain deities or powers, and the type of triune co-equality; and hence applied by some to the three great deities conjointly. A point, called purm, represents the deity, having neither length nor breadth, self-existing, containing nothing. A circle is Brahm, eternity; having neither beginning nor end; unity, perfection.—*Moor, p. 404*.

SHERLEY. Three brothers of this name, Sir Thomas, Sir Anthony, and Sir Robert, who travelled in Persia, Russia, Turkey, and Spain, in the latter part of the 16th and beginning of the 17th centuries.

SHERRY, a wine, principally produced in the vicinity of Xeres in Spain, of a deep or light amber colour, and fine aromatic odour; its taste is warm, with some degree of the agreeable bitterness of the peach kernel. It is extensively used as a dinner wine.—*Faulkner*.

SHER SHAH. His tomb is on a square terrace in the middle of a large tank near Sasseram in Shahabad.

SHERWATY, a river on the western side of India, in the Dharwar collectorate, which falls 1000 feet, near the village of Garsipa.

SHEVA GANGA, a large zamindari in the Madura district, 1460 square miles. It contains 2070 villages and 1265 hamlets. It formed part of the Ramnad chiefship until 1729.

SHEVAROY HILLS, Survarayar Malai, a hill range in Salem district, Madras, situated between lat. 11° 43' and 11° 55' N., and between long. 78° 13' and 78° 24' 30" E., are a mass of densely-wooded flat-topped hills, the mean height being 4600 feet, and the highest peak 5260 feet. These hills are an irregular mass of mountains, separated by deep valleys. Their entire length from north

to south is about 17 miles, and their breadth 10 or 12 miles. The superficial area of the higher plateau has been estimated at 100 square miles. They form the northern boundary of the valley in which the town of Salem lies. The Shevaroyen or Green Mountain is about 5200 or 5300 feet of elevation. Yarkand (Yerkalu) is the largest European settlement in the hills. It is situated on that portion of the plateau nearest to the town of Salem. The land in the valleys is under coffee cultivation.

SHIAH, Muhammadan sectarians. The only material point of faith in which the Shiah differ from the Sunni, is their belief that Ali, the companion, son-in-law, and cousin of Mahomed, ought to have immediately succeeded the prophet, instead of Abubakr, Omar, and Osman. They recognise twelve Imams, or heads of the faith, in Ali and his successors, of whom the twelfth Imam, Mahdi, is believed by one sect to be still alive, and expected to reappear. These are known as the Mahdawi. Another sect believe that Mahdi has appeared and gone, and are styled the Ghair-Mahdi. The Shiah sect are chiefly in Persia, a considerable number in Oudh and Hyderabad. The bigoted amongst them, on the 18th Zihaj, make three images of dough filled with honey, to represent Abubakr, Omar, and Osman, and stick knives into them. The Shiah Muhammadan often marry by the mita ceremony for a brief period. — *Wilson's Gloss.*

SHIBARGHAN, a town in Afghan Turkestan, 250 miles N.E. of Herat, and 60 miles W. of Balkh. It contains 12,000 souls, Uzbek and Parsivan. The people are brave. Across the Murghab, and towards Balkh, lie the small states of Andkhui, Maimuna, Shiharghan, Siripool, and Akchee. They have undergone various political changes, and have been described by Burnes, Pottinger, Ferrier, and Wheeler, and have latterly formed part of Afghan Turkestan. In A.D. 1830, all of them were engaged in the slave trade, and independent, though they sent presents of horses both to Herat and Bokhara.

All of these chiefships are situated in the plain country, which in general is well watered by rills or canals, and has an abundance of forage for camels and horses, which are numerous. The soil is dry, but there are many gardens near the towns. The style of building, from a scarcity of wood, is that of the beehive shape. There is a good open caravan road from Meshed to Balkh, which is a journey of sixteen days; thus, from Meshed to Shurukhs, four; to the Monghul, three; to Maimuna, four; and to Balkh in five days. This is much the nearest route to Kabul from the west.

Andkho or Andkhui, in 1840 was ruled by Shah Wali Khan, an Afghan Turk, who settled here,—others of his tribe in the time of Nadir. They were then of the Shiah sect, but are now Sunni. The 'il' of the chief, besides his own race, are Arabs. Wheat is here a triennial plant. Andkhui was the place where Moorcroft died. Akchee is a dependency of Balkh, 42 miles distant.

Maimuna is the most important of the whole; the chief in 1840 was Mirza Khan, an Uzbek of the tribe Wun, and his country extended from Maimuna to the Murghab, and adjoined that of Sher Muhammad Khan, Hazara. Maimuna itself is an open town, or rather village, of about 500 houses; but the strength of the chief consists in

his 'il,' or moving population, who frequent Ulmur, Jankira, Sorbagh, Kaffir-Killa, Khyrabad, Kusar, Chuckaktoo, Takht-i-Khatoon, and other sites, which can scarcely be called villages. He also numbers Arabs among his subjects, many of that tribe having been long settled here. Pop. 40,000.

Shibarghan is considered to be a very ancient place, being given to the days of the Kaffir (Greek), and it is still the strongest fort in these parts. The ark or citadel is built of brick and mortar, and surrounded by outer walls of mud. Kalik Ali Beg, a chief of Balkh, besieged it for seven years without success; but it must only be understood to be strong against Uzbaks, who are badly supplied with artillery. Water is conducted to it from the rivulet of Siripool.

Siripool.—In 1840, an Uzbek of the tribe of Auchmulee governed Siripool. His 'il' were in Sungcharuk, Paogan, Goordewan, and Daghdrah. Siripool itself is as large as Maimuna — *Burnes; East India Papers; MacGregor.*

SHIBWALA or Shivalai is the local name of the range separating the Dehra Doon from the plains east of the Jumna, and this has given the term Siwalik. It was in the Siwalik Hills that Captain (now General) Sir Proby T. Cautley, in the early part of the 19th century, discovered the presence of fossils; and the collections made by him and Dr. Falconer were described by the latter in the *Fauna Antiqua Sivalensis* and *Paleontological Memoirs*. The great fossiliferous deposit of the Siwaliks is near the valley of Markanda, westward of the Jumna, and below Nahun. By the joint labours of Captain Cautley and Dr. Falconer, and of Lieutenants Baker and Durand, a sub-tropical mammalian fossil fauna was brought to light, unexampled for richness and extent in any other region then known.

SHIELD.

Daraq, Turs, . . .	ARAB.	Tarbil, Dadap, . . .	MALAY.
Dhal,	HIND.	Salukong, . . .	"
Tameng, Pitar, . . .	MALAY.	Siphar,	PERS.
Prisai, Otar-otar, . .	"	"	"

The use of the shield or buckler was universal over all the Malay and Philippine Archipelago before the introduction of firearms, and is still continued by all the ruder tribes. There are seven different Malay names for its forms, four of which are native,—two taken from the Javanese, and one from the Telugu. Wherever the sword, the javelin, the spear, the bow and arrow, and blow-pipe are used as weapons, the shield is still carried for protection. — *Crawford's Dict.* p. 379.

SHIGNAN, a hill state on the right bank of the river Amu, to the N. of Darwaz. Inhabited by the Galcha, who are Shiahs. Like all the Tajaks, they speak an old form of Persian. Population, 300. — *Trotter, C. As.*

SHIGRI, a river of Spiti in the N.W. Himalaya, with a great glacier, which about A.D. 1830 burst, and a vast inundation ensued, destroying much life and property. See Glacier.

SHIHIYYIN, a tribe occupying Amsandam Islands (lat. 26° 22' 30" N.). They profess Muhammadanism, but are grossly ignorant and regardless of its forms. The tribe also possess the country, with five towns, from Cape Musseldom to Ramee, a pirate port. The more civilised part of the tribe are engaged in the pearl fishery, in trade and agriculture, and as fishermen; their pearl fishery being worth 3000 toman yearly. The tribe have

SHIKAR.

14,000 men, and they are the constant enemies of the Joasmi. Near Amsandam Island is Khasab Bay, occupied by fishermen who are said to be descendants of the Portuguese.

SHIKAR. **HIND., PERS.** Game, prey, field-sports. Shikargah, or hunting-places, Bela, as the Sindians call them, formed a peculiar feature in the face of Sind. The Talpur Amirs of Sind calculated that every head of deer killed cost them £80, and this is no exaggeration, duly estimating the loss of revenue occasioned by converting valuable land into hunting forests. They were entangled thickets of tamarisk and babul, extending for three miles along the river-side, and a mile deep, and were numerous below Sehwan.

The Shikari (huntsmen), or Dapher race of Sind, are, if possible, an even more degraded race than the Bale-Shahi. Their second name is probably derived from the dapho, a broad-headed javelin with a shaft six or seven feet long, their favourite weapon. The Shikari are neither Muhammadans nor Hindus. They were numerous about Amerkot and the Thur, where they subsist by manual labour, agriculture, and hunting. In these regions there is something remarkably wild and savage in their appearance. The only garment worn is a cloth round the waist, except in winter, when a tattered blanket preserves them from the cold. Armed with his usual weapons, the Shikari generally seeks the wildest part of the country, where he can find the greatest number of hogs, jackals, lynxes, and a kind of lizard called Giloi.—*Burton's Scinde.*

SHIKARI. **HIND.** A hunter, a sportsman. In the centre of the Peninsula of India is a hunter race who style themselves Bhowri, but are known as Hirn Shikari and Hirn Pardi.

SHIKARPUR, a town in Upper Sind, in lat. 27° 57' 14" N., and long. 68° 40' 26" E., 20 miles due W. of the Indus, connected by good roads with Jacobabad, from which it is distant 26 miles south-east. It gives its name to a revenue district lying between lat. 27° and 29° N., and between long. 67° and 70° E. Area, 8813 square miles; pop. (1872), 776,227. Shikarpur is a great central entrepot, trading with Central Asia, Afghanistan, and Bokhara. Its Hindu merchants have the whole commerce of Central Asia in their hands, through an extensive agency. It is especially the home of these bankers, where their families are fixed, and where are detained those of the gomastah or agents located in foreign countries. Shikarpur, no doubt, attained its high rank under the Durani monarchy of Afghanistan, and much of the prosperity of its bankers was due to the vicious operations of that dynasty. Between the domain of Shikarpur and Baluchistan stretches a barren, naked tract, known as the 'pat' of Shikarpur. It is between 30 and 40 miles across. Not a tree or shrub vegetates on this expanse.

SHIKHOE. **BURM.** A Burmese obeisance. The shikhoé consists in the Burman squatting on the ground and at the same time raising his clasped hands, with fingers extended, to his forehead two or three times, while he simultaneously bends his body forward. This is the customary Burmese mode of addressing a superior, and the monks or phoungyes are always approached in this fashion.—*Yule*, p. 82.

SHI KING, the sacred books of the Chinese,

SHIP.

were translated into Latin by Father Lachartre, a Jesuit missionary of China.

SHILLONG, mountain range in the Khasya and Jaintia Hills district, Assam, overlooking the station of the same name, situated in lat. 26° 32' 39" N., and long. 91° 55' 32" E., on a table-land 4900 feet above sea-level, and 67 miles south by road from Gauhati (Gowhatty). It is a fine open station, with a view of the snowy Himalayan range.

SHIMBEAMS, in Madras, are planks 20 to 30 feet long, 3 inches to 2 feet in breadth, and from 4 to 8 inches thick.

SHIMOGA, the chief town of a district forming the north-western portion of the Nuggur division of Mysore, lying between lat. 13° 30' and 14° 38' N., and between long. 74° 44' and 76° 5' E.; area, 3797 square miles. Of its population, the Wokliga (56,584) are agricultural labourers; Idiga (49,987), who are toddy-drawers; and Sadars (44,881), cultivators. The Lingaets, who have always been influential in this part of the country, number 52,701. Out-castes are returned at 60,358; wandering tribes, 18,001; wild tribes, 5558.—*Imp. Gaz.*

SHIMR, a native of Sham or Syria, the murderer of the Imam Husain, son of Ali. His name is held in detestation.

SHINA. **PUSHTU.** Shirna, **HIND.** An inflated hide of the ox or goat, closed by a wooden plug, commonly used on the Indus for crossing rivers. Two are usually lashed together. The rider strides across them, passes each leg through a loop of strapping hanging like a stirrup on each side, and, holding each vent-plug in either hand, and then plunges out into the foaming torrent, paddling with arms and legs as in the act of swimming. Much dexterity and skill are required to prevent a capsize.

SHIN-BUNG, a deity of the Chinese, in honour of whom they hold an agricultural festival.

SHINGLE, a long, flat board of wood, used for roofing houses.

SHING WONG, a Chinese deity, the protector of walled cities. He is worshipped annually on the second day of the year; but his great festival is on his birthday, on the 24th day of the 7th month.—*Gray*, p. 150.

SHIN-NUNG, a mythical emperor of China, who, the people believe, instituted agriculture.

SHINTIYAN is the common sword-blade of the Bedouins; in Western Arabia it is called Major (from the Magyras?), and is said to be of German manufacture. Good old weapons of the proper curve, marked like Andrew Feraras with a certain number of lines down their length, will fetch, even in Arabia, from £7 to £8. The modern and cheap ones cost about 10s.—*Burton's Mecca*, i. p. 365.

SHINWARI, an Afghan tribe; besides their portion of the hills, have the lands immediately west of them, and some of the valleys of the Safed Koh range. More westerly still, under the same hill range, they are found south of Jalalabad, and are the neighbours of the Khogani. They are highly predatory.

SHIP.

Safika, Markib, . . .	ARAB.	Vascello,	It.
Grab, Zorag, Kosal,		Navis,	LAT.
Navire, Vaiseau, . .	FR.	Jahaz, Kiahiti, . .	PERS.
Schiff,	GER.	Nave, Navio, Bazel, .	SP.
Nao, Jahaz,	HIND.	Buque,	
Nave, Naviglio, . .	It.	Ghemi, Tekne, . .	TURK.

Notices of the various kinds of ships will be found under the head of Boats. On the eastern side of the Peninsula of India, the ship is built with her keel parallel to the shore, and, as it may happen, from 200 to 300 feet from low-water mark. When completed, she is placed on two strong pieces of timber, called dogs (in the nature of a sledge of enormous dimensions), and on these a sort of moveable cradle is constructed to keep the vessel upright. Two long palmyra trees, a lever of the second kind, are then applied to the ends of the dogs, and by means of these powers, they, together with the vessel that rests on them, are gradually pushed forward over a platform of logs until they arrive at the lowest pitch of low water, or as far beyond it as the levers can be used. Tackles are applied to the ends of the levers to increase the power; the fulcrums are wreaths of rope, fastened to the logs on which the vessel slides, and are removed forwards as she advances. Two cables from the land side are fastened to the vessel to prevent her from sliding too rapidly, and these are gradually let out as she advances. It is commonly the work of two days to transport the vessel to the margin of low water. If the tide does not rise high enough to float her from thence (which it seldom does if the vessel be of any considerable burden), part of the cradle is taken away, and the ship left chiefly to the support of the cradles till high water, when they are suddenly let go, and the vessel falls on her side, and with the fall disengages herself from the remains of the cradle, and at the same time plunges into deeper water. A ship of 500 tons has been launched in this manner.—*Rennell's Memoir*, p. 245.

SHIRAR, the inspissated juice of grapes.

SHIRAZ, the capital of the province of Fars, was founded A.D. 622. It was taken by Timur A.D. 1380. It is in lat. 29° 37' 56" N., and long. 52° 40' 22" E.; is 4850 feet above the sea, in the centre of a plain 25 miles long and 10 or 12 miles broad, amidst mountains. It has a low wall of mud and six gates, surrounded by gardens, some of them, as the Jahan Numa, beautiful. It has 7780 houses. The tomb of the poet Hafiz is in a garden 1½ miles from the city. The climate is agreeable, but not favourable to Europeans in the summer months. The tomb of Sadi stands by itself in a recess, but that of Hafiz requires to be pointed out from a multitude of others around it. The wine of Shiraz is a fine, powerful, dry wine, not so dark as brown sherry. Near the Jahan Numa in Shiraz is a building called Chahal Tan, 'the forty bodies or persons.' Another, the Haft Tan, or 'seven persons,' so named from the number of holy men there buried. At Shiraz, Hussia, and in India, African slaves are distinguished by flowery names or epithets, expressing beauty and fragrance, in proportion to their natural ugliness or offensive smell,—as Yasmin, the jasmine; Sumbul, the hyacinth; Jauhar, the jewel; and Makbul, the pleasing or agreeable.—*Vigne; Ouseley's Tr.; Morier; Fraser; Chesney; Abbott; Rich; Henell; Taylor; Clerk; Pelly; Kincair.*

SHIRHAWTI RIVER falls into the Arabian Sea; at its embouchure it is about 400 yards in width, and in the rainy season some 30 feet in depth. This immense body of water rushes down rocky slope for 800 feet at an angle of 45°, at

the bottom of which it makes a perpendicular plunge of 850 feet into a black and dismal abyss, with noise like the loudest thunder. The whole descent is therefore 1150 feet, or several times that of Niagara, but the volume of water in the latter is somewhat larger than in the former.

SHIR KHISIT. HIND. Manna from Fraxinus, *sp.* Khorasan manna, from Khorasan, is supposed to be the produce from an olive.

SHIRNA. HIND. Shinaaz, PUSITU. The inflated large buffalo or bullock skin used for crossing streams in the Himalaya hills. In Kashmir these large skins are not used, but small ones tied two together. See Shina.

SHIRWAN, in lat. 38° 31' to 40° 44' N., a province of Georgia, about 135 miles long and 20 to 40 miles broad, with an area of 10,386 square miles. It was the finest province of Persia, but was ceded to Russia in 1724, and again in 1826. Its people are Armenians, Muhammadans, and Tartars.—*MacGregor.*

SHIRZY RAO GHATGAY, a Mahratta leader and minister of great notoriety. He was the father of Baiza Bai, who married Dowlat Rao Sindia.

SHISHAK. According to Professor Duncker, the first fixed starting-point in Egyptian chronology is the invasion of Palestine by Shishak, who appears as Seonchis, the first king of the 22d dynasty of Manetho, and whose reign in his lists begins in the year B.C. 934. But according to the Hebrew chronology this date would be too late by perhaps a generation. In his belief, five centuries had passed from the expulsion of the Hyksos before Shishak began to reign. If we allow, as he thinks we ought to allow, another five centuries for the occupation of these nomadic intruders, the end of the old monarchy will be synchronous with the beginning of the second millennium B.C. Calculations of a like kind would lead to the conclusion that the pyramids of Memphis were built about B.C. 2500; nor can a less period than that of five more centuries be allowed for the growth of a civilisation which should render the erection of such stupendous monuments possible. In support of this conclusion, we have the indubitable fact 'that the oldest monuments of Egypt—and they are also the oldest in the world—exhibit the Egyptians in possession of the art of writing; and when we remember that all writing must proceed from pictures, we may well be staggered at the length of time which must pass while the first actual imitative drawings were being rubbed down until they were reduced to a form approaching that of mere phonetic characters.

SHITTIM TREE, mentioned by Isaiah and also in Exodus, is supposed to have been an acacia. Hippocrates speaks of the Egyptian acacia and of the white acacia, distinguished, he says, by its white bark, white wood, and white flowers; and from this tree his 'white fragrant ointment' was probably made.

SHIVE-U-DOUNG, a great mass of mountains which runs parallel to the Irawadi as far as Amara-pura; one peak is estimated to be 6000 feet in height.

SHOA. In 1840, Sahela Selassie, king of Shoa, in Southern Abyssinia, expressed a desire to cultivate the friendship of the British Government, and wrote to the Government of Bombay

asking to be furnished with guns and warlike stores. Shoa was then one of the most powerful and important provinces in Abyssinia. It is inhabited by the Galla tribe. At the time when Sahela Selassie made these advances, the steam navigation of the Red Sea had given an exaggerated importance to the tribes of Abyssinia, and a mission was sent to Shoa, with which country the French also appeared anxious to establish friendly connections. A commercial treaty was concluded with the king on 15th November 1841. — *Treaties*, vii. p. 310.

SHOES.

Markub, Hida, . . .	ARAB.	Baschmaki, . . .	RUS.
Schemen,	DUT.	Zapatos,	SP.
Soulier,	FR.	Cherupt, Chapatu, . . .	TAM.
Schuhe,	GER.	Cheppu,	TEL.
Jora, Juti,	GUJ., HIND.	Kundura,	TURK.
Scarpe,	IT.	Pabuch,	"
Kasut, Sapatu, . . .	MALAY.		

The sandal was doubtless the foot-clothing of all ancient times, and the flinging of one on a territory was a symbol of taking possession. The Psalmist says, 'Upon the land of Edom do I cast my shoe.' In Ireland, after the chief took the white rod, the sub-chieftain placed sandals on his chief's feet, retained one as an honourable perquisite, and threw the other over his chief's head as an augury of good luck. The sandal is still worn by the Hindu and Muhammadan nations in the south of Asia. Shoes, as articles of covering for the feet, are generally made of leather, but cloth of kinds is also used, and in the Panjab Himalaya, straw and grass. The shoes, or rather slippers, worn by the natives of Southern India are generally of red leather if for men. The patterns are called Appa-shahee, Chandduru, Chappal, and Nokdar. The rich natives use a buff-coloured cloth. The slippers of females are ornamented with spangles. Their price is from four annas to a rupee. Thunberg says that in his time the shoes of Japan were always the shabbiest part of the dress of the Japanese, and being of straw they lasted but a little time. But they were made in immense numbers, and cost but a trifle. Dignitaries sometimes wore slippers made of fine rattan slips neatly plaited. In Exodus iii. 5, the Lord commanded Moses, saying, 'Put off thy shoes from off thy feet; for the place whereon thou standest is holy ground.' The natives of British India never go into their own houses, nor into the houses of others, with their shoes on, but always leave them at the door. It is a great affront not to attend to this mark of respect in visiting; and to enter a temple, mosque, or kyoung without pulling off the shoes would be an unpardonable offence. A shoe-bearer is a very humble office; and in Matthew iii. 11, John says of Christ, 'He that cometh after me is mightier than I, whose shoes I am not worthy to bear.' Luke xv. 22 says, 'And put shoes on his feet.' In Bengal, shoes of a superior quality make one of the distinguishing parts of a person's dress. Some of these shoes cost as much as a hundred rupees a pair, but are put off the feet before entering a room. — *Faulkner*; *Herklots*; *American Expedition to Japan*, p. 65; *Thunberg*.

SHO-GUN or Tycoon, in Japan, until the revolution of 1868, was the chief noble of the Mikado, and was called by foreigners the Temporal Emperor. The full title was Sei-i-Tai Sho-gun, i.e. barbarian-quelling generalissimo, and it was bestowed by the Mikado on his son Ya-ma-to Da-

ke-no-mi-ka-to, who B.C. 86 conquered the aborigines of the N. and W. of the main island. The first hereditary Sho-gun was Mi-no-mo-to Yo-ri-to-mo, A.D. 1190. The greatest of all the Sho-gun was Iye-ya-su, the founder of the Tokugawa dynasty of the 17th century. The last of these temporal sovereigns was Kei-ki, who was set aside in 1868, when the Mikado assumed direct rule, and he was still living at Shid-zu-oka in A.D. 1883.

SHO-JIN. CHIN. Pigmies, fabulous beings.

SHOLA or Sola, HIND., is the root of the *Æschynomene aspera*. It is made into toys, artificial flowers, birds, garlands, floats for nets, or in bundles for crossing rivers. When charred it answers for tinder. Phool-sola or Bhendi is *Æ. aspera*, *Æ. Roxburghii* is the Bhat-sola, *Æ. paludosa* is the Kat-sola. The skill of the Indian carver is conspicuously shown in the beauty of the figures and buildings in the pith-like *Æ. aspera*.

SHOLA, in the S. of Peninsular India, a grove, a copse, a small forest in a valley or on the slope of the hills; in Wynad, a ravine filled with tree thickets. The whole of the sholas or woods in the reserved woods at the neighbourhood of the Ootacamund station are absolutely reserved, not only for their beauty, but also from fear of injuring the water-springs. Their limits are marked; no private cutters are allowed inside; old trees to be felled are brought outside, and sold by public auction. Trees to be planted where required in vacant places. — *Madras Conservator of Forests*, 1859-60.

SHOLAGUR, a hill race who lived in the jungles of the Kollegal taluk of Coimbatore.

SHOLAPUR, a town and fortress in the Dekhan part of the Bombay Presidency. It is in lat. 17° 40' 18" N., and long. 75° 56' 38" E., in the valley of Seena river; and the surrounding lands have been formed into a revenue district, with an area of 3925 square miles, and a population in 1872 of 662,986 souls, that of the town being 53,403. The people are largely Maharrattas, and on its east, south, and west are the estates of the Akalkot, Patwardhan, Phaltan, and Panth Pratinadhi chiefs. In 1818, on the downfall of the Peshwa, it fell to the British. In 1877 it suffered from famine.

SHOLASAGAMANY. Fine rubies have from time to time been discovered in many of the corundum localities, particularly in the gneiss at Viralimodos and Sholasigamany; also in the Trichingode taluk, and at Mallapollye, but are, comparatively speaking, rare.

SHOMIYO, in Japan, a territorial noble, with an annual revenue of less than 10,000 koku of rice. The words mean small name.

SHOOAY-DAGON, a great Buddhist pagoda at Rangoon in Burma, and the most venerated object of worship in all the Indo-Chinese countries. It is in lat. 16° 46' 40" N., and long. 96° 13' 50" E., and stands upon a mound, partly natural and in part artificial, in the angle formed by the junction of the Rangoon and Pegu rivers. This mound has been cut into two terraces, the upper of which is 166 feet above the level of the ground, and 900 feet long by 685 wide. On the east side is a bell, 7 feet 7½ inches in diameter at the mouth, which was presented by Bhodaw Bhura. The legend concerning its erection assigns it to the year 588 B.C. The pagoda has been several times

added to and regilt,—the last time in 1871, when, with the sanction of the British Government, the king of Burma sent a new H'tee from Mandalay, valued at £62,000. The name Shooay-dagon is derived from the Talaing word Takun, meaning a tree or log lying athwart, which has been corrupted in Burmese into Dagon or Dagun. The Burmese word Shooay or Shwe means golden. The hill on which it stands has been strongly fortified. It is said to contain relics of all the four Buddhas of the present kalpa (Buddha-gabba), viz. the staff of Kakusanda, the water-dipper of Konagamma, the bathing garment of Kasyapa, and eight hairs from the head of Sakya Sinha, Gautama Buddha.—*Hough's Great Bell at Rangoon; Imp. Gaz.*

SHOOAY-GYENG, the chief town and headquarters of Shooay-gyen district, Tenasserim division, British Burma, in lat. 17° 55' N., and long. 96° 57' 30" E., on the left bank of the Sitang (Tsit-toung) river. The Pong-loung range, at the Tsik-le Hill, opposite Shooay-gyeng, attains a height of about 4000 feet, and terminates above Keng-rwa in Ke-la-tha, a peak crowned by a conspicuous pagoda. The Sitang river rises in Independent Burma. It enters Shooay-gyeng at its northern end, and, after an exceedingly tortuous course, falls into the Gulf of Martaban by a funnel-shaped mouth seven or eight miles wide, up which the spring-tides rush with great violence. A chopping sea follows the rolling crest of the bore, and sometimes wrecks a boat in a few minutes. The population in 1872 was 129,485. Karens, 43,475; Burmese, 41,562; Talaing, 35,401; Toungthu, 4887; Shans, 3189; Muhammadans, 421; Hindus, 291; Chinese, 157. The Karens are most numerous in the tract east of the Sitang, and belong to two great families, Sgaw and Pwo. Many of them have been converted to Christianity by the American Baptist missionaries. The Talaings chiefly inhabit the plains; the Burmese, the country lying north of the Sitang. The Yabaings, who are engaged in the rearing of silk-worms, are found mainly on the eastern slopes of the Pegu Yomas in Bhawni.

SHOOAY-HMAW-DAW, literally golden great d, a pagoda in the old fortified town of Pegu, Rangoon district, British Burma. It is a pyramidal, solid brick building, rising to a height of 234 feet from an octagonal base, each side of which is 162 feet long. It stands upon two terraces, the lower one being a parallelogram, with its sides 1390 feet long. The pagoda is surrounded by two tiers of smaller temples; the lower tier contains 75, and the upper 53. Shooay-hmaw-daw, in common with most of the sacred edifices in Burma, is connected with a visit of Gautama, though there can be no doubt that he never came so far as Burma. In June 1852, on the outbreak of the second Burmese war, the pagoda was the scene of some sharp fighting previous to the capture of the town of Pegu by the British.—*Imp. Gaz.*

SHOOAY-TSHAN-DAW, a pagoda in Prome town, Prome district, Pegu division, British Burma. It is situated on a hill about half a mile from the bank of the Irawadi, and gives its name to a quarter of the town. The building is gilt all over, and is solid. Its height is 180 feet, and it occupies an area of 11,025 square feet. It is surrounded by 83 small gilt niches, called Ze-

di-yan, each containing an image of Gautama. Tradition alleges that when Gautama arrived near Prome, and was walking on the island of Zeng-yan, he was accosted by a naga or dragon, who begged for some sacred hairs to enshrine in a temple.—*Imp. Gaz.*

SHOONDOAH is a tiny ship which Hindus launch on the Ganges, ornamented with garlands of flowers, and illuminated with lamps. It is a ceremony performed by Hindu mothers to propitiate the goddess in behalf of their sons. The goddess resembles Amphitrite. It is supposed to be a propitiatory rite handed down from times when the Hindus were engaged in maritime avocations. It is held on the day on which, according to Hindu astronomy, the sun turns back from Capricornus to resume his northern ascension, and when the steady N.W. wind blows favourably for outward bound voyages. Feastings are held on that day, and farewell entertainments are given to the voyagers.

SHORABAK lies due east of Seistan, on the banks of the Lora, and is occupied by the Baraich Afghans, great camel-breeders, and acknowledging the supremacy of the amir of Kabul.

SHORAPUR, a tributary state of the Nizam, situated on the south-west corner of the Hyderabad territory. Its chief and their people are of the Beder race, parties of whom are scattered southwards into Mysore, and eastwards into Bellary. Their race name is the source of the word Pindara.—*Imp. Gaz. viii.*

SHORE, Sir JOHN, afterwards Lord Teignmouth. He arrived in Calcutta on the (12?) 14th September 1786, along with Lord Cornwallis. He succeeded Lord Cornwallis as Governor-General on the 28th October 1793, and retained the office till he embarked for England on the 12th March 1798. On the death of Sir William Jones he was nominated President of the Royal Asiatic Society of Bengal. He wrote an account of Nepal in the Bengal Asiatic Researches.

SHOREA, a genus of plants of the order Dipterocarpaceæ, which many botanists arrange under the genus Vatica, *q.v.* The species named are Assamica, floribunda, gratissima, laccifera, obtusa, robusta, Siamensis, stellata, talura, and tumbuggaia. *S. robusta* is the sal tree; *S. laccifera*, *Heyne*, is a timber tree of Madura; *S. obtusa*, *Wallich*, is of Prome; and *S. stipularis*, *Thw.*, is a great tree of Ceylon, between Ratnapura and Galle.—*Thw. i. p. 36.*

SHORTT. Deputy Surgeon-General John Shortt, a Madras medical officer, a voluminous writer, and original investigator; author of a Report on the Medical Topography of the South-West Political Districts, 1853; Essay on Indigo, 1860, for which he received from Government a prize of Rs. 800; Essay on Cotton Culture, prize Rs. 1000, and gold medal from the Manchester Cotton Supply Association; Handbook to Coffee Planting, 1864; Treatise on Vaccination, 1865-66, translated into Canarese, Hindustani, Tamil, Telugu, Uriya; on the Hill Ranges of S. India. He wrote also on the Medical History of Women, 1864; on the Leaf-Wearing Rite; and on the Hanging Festivals of the Hindus.

SHOTRIANDAR. TAM. A person holding land on easy rent, or for a number of lives; generally as a reward to Brahmans only for public services; also written Shrotriyandar.

SHOUNG, a tributary of the Sitang, on the northern boundary of Tounghoo. It is occupied by a tribe who call themselves Shoun-khi-pho, or sons of the headwaters of Shoung.—*Mason, Burma*, p. 92.

SHOWERS OF FISH. Prinsep on, *Journal*, 1833, p. 34; Grant on, *Trans. of Civil Engineers; Naut. Mag.* 1838; *Bombay Times*, 1840, p. 652. Showers of Blood in Kandesh in 1828, *Rep. Brit. As.* 1839. Showers of Grain, *Ibid.* Showers of Pearls, *Bombay Times*, Jan. 1847. Showers of Sand in China, Dr. MacGowan, in *Chinese Rep. Bl. As. Trans.*, 1851, p. 172. See Sand.

SHRADDHA, SANSK., from Shraddha, firm faith. It is the Latin Credo and English Creed. The Shraddha is a Hindu ceremonial for the repose of the dead. The oblation consists of rice, flowers, water to the manes of the deceased. There are three shraddha for the dead,—one eleven days after death, another every month, and another at the close of the year after a person's decease. During the ten days of mourning the relations hold a family council, and consult on the means of performing the shraddha. On the last of these days, after making an offering for the dead by the side of the river, they are shaved. This offering consists of boiled rice, sugar, curds, sweetmeats, milk, plantains, etc., made into ten balls, and presented with prayers. Menu says, 'What sort of oblation given duly to the manes is capable of satisfying them for a long time, or for eternity, I will now declare, without omission. Brahmans are unclean for ten days after the death of a relation; Kshatriyas, twelve; Vaisyas, fifteen; and Sudras, thirty.' The next day, after bathing, the family prepare an open place for the ceremonies. If it be the shraddha of a rich man, all the learned Hindus and respectable people of the neighbouring villages are invited. The company being seated under an awning, the sons and other relations of the deceased, dressed in new garments, place themselves in the midst of the company with their faces eastward, having near them sixteen different gifts, as brass cups, candlesticks, umbrellas, shoes, etc. Next are brought seeds of sesamum, a small piece of gold, and another of a different metal, wrapped up in new cloths. The son of the deceased now puts a piece of new cloth across his neck, and offers an atonement for the sin of having killed insects, in sweeping the room, in cooking, grinding spices, and in moving the water jar; then follows an offering to the sun; then, rising and bringing his hands forward in a supplicating posture, he solicits leave from the company to make the offering, after which he offers the sesamum, gold, and metal for the happiness of the deceased; takes the kosha, and sprinkles the sixteen gifts with water; then, placing a flower on each, and repeating prayers, he offers them in the presence of the shalgrama or saligrama, one by one, in the name of the deceased, that he may obtain heaven. The son after this, if in circumstances sufficiently affluent, presents large gifts to the Brahmans, as elephants, horses, palanquins, boats, etc., the receiving of which, however, is not honourable. A Brahman then marks the foreheads of all present with sandal powder, and puts round the neck of each a garland of flowers. To the Ugrudnee Brahmans and others are now given, amidst much confusion among the receivers, the sesamum, the

morsel of gold, the metal, a large basin full of cowries, and a conch or two, as well as the sixteen different gifts; after which the assembly breaks up. The son then goes into the house, and, placing a Brahman and his wife on a seat, covers them with ornaments, worships them, and, adding a large present of money, dismisses them. After this the son of the deceased requests five Brahmans, of some note for learning, to offer a male calf; in doing which they take two cloths each, four poita, four betel-nuts, and some cowries provided for the purpose, and go with the company to a spot where an altar has been prepared, one cubit high and four cubits square. Four of the Brahmans sit on the four sides of the altar, and then worship certain gods, and offer a burnt sacrifice. Near the altar are placed the saligrama, four female calves, a male calf, and a vilva post. The fifth Brahman reads certain parts of a Purana, to drive away evil spirits. The female calves are tied to four vilva posts, and the male calf to a vrisha post. To the necks of the female calves four small slender baskets are suspended, in which are placed, among other things, a comb, and the iron stilette with which the Hindu women paint their eyebrows black. A sheet of metal is placed under the belly of the male calf; on the back a sheet of copper; the hoofs are covered with silver, and the horns with gold, if the shraddha be performed by a rich man. On the hips of the male calf marks of Siva's trident are impressed with a hot iron. After this the son of the deceased washes the tail of the male calf, and with the same water presents a drink-offering to his deceased ancestors, and afterwards marries the male calf to the four female calves, repeating many formulas, in which they are recommended to cultivate love and mutual sympathy. The son next liberates the female calves, forbidding any one to detain them, or partake of their milk in future. In liberating the male calf, he says, 'I have given thee these four wives to live with them. Thou art the living imago of Yama; thou goest upon four legs. Devour not the corn of others, go not near a cow in calf,' etc. The female calves are generally taken by Brahmans; the male calf is let loose, to go where he pleases. To this succeeds what is peculiarly termed the shraddha. The river side, or the cow-house, or some retired place, is chosen; after cleansing which, they collect all kinds of eatables, cloth, sesamum, flowers, etc., and place them into dishes made of the excavated trunks of the plantain tree. The son then washes his feet, and sits with his face towards the east, with a saligrama before him, and repeats many prayers to purify himself. He then worships the saligrama, presents to his deceased parent the seven dishes placed to the east, repeating various prayers, and worships Ganga, Vishnu, and the household gods, adding an offering to the ancestors of the king as an acknowledgment for using the king's land at worship.

SHRAVAN or Purnima, a Hindu feast which occurs about the middle of August, on the 15th of Shravan Shukla. It is attended, on the western coast of India, about Bombay, with much ceremonial. The S.W. monsoon is supposed to be ended. Cocoanuts and flowers are thrown into the sea to obtain favour for those who are to trust themselves on the ocean.

SHRAVAN-BELGOLA, meaning tank of the Shravans or Jains, is a village in the Hasan district, Mysore; situated in lat. 12° 51' 10" N., and long. 76° 31' 31" E., between two rocky hills called Chandra-betta and Indra-betta. Population (1871), 1697. On the summit of Chandra-betta stands a colossal statue of Gomateswara, 60 feet high, surrounded by numerous buildings. The hill itself is 3250 feet above sea-level. An inscription on the foot of the statue states that it was erected by Chamunda Raya, whom tradition places about B.C. 60. The statue is nude, and stands facing the north. The face has the serene expression usually seen in Buddhist statues; the hair is curled in short spiral ringlets over the head, while the ears are long and large. The statue must either have been cut out of a rock which projected above the hill, or the solid summit of the hill may have been itself cut away. The workmanship is still as sharp as if the stone had been newly quarried. Within the enclosure are 72 small statues of a similar description in compartments.—*Imp. Gaz.*

SHRIKES, the popular name of birds of the family Laniidae, which Jerdon arranges as under:

Fam. Laniidae, shrikes.

Gen. *Lanius*, 11 species.

Sub-Fam. Malaconotinae, wood shrikes.

Gen. *Tephrodornis*, 6 species.

Gen. *Hemipus*, 1 species.

Sub-Fam. Campophaginae, cuckoo shrikes.

Gen. *Volvocivora*, 2 species.

Gen. *Graucalus*, 1 species.

Gen. *Pericrocotus*, 7 species, red shrikes or minivets.

Sub-Fam. Dierurinae, Drongo shrikes.

Gen. *Dierurus*, 4 species.

Gen. *Chaptalia*, 2 species.

Gen. *Bhringa*, 1 species.

Gen. *Edolius*, 2 species.

Gen. *Chibia*, 1 species.

Sub-Fam. Artaminae, swallow shrikes.

Gen. *Artamus*.

The grey wood-shrike is *Tephrodornis Pondiceriana*. The bay-backed shrike, *Lanius Hardwickii*.

SHRIMPS.

Burghut-ul-Bahr,	ARAB.	Squilla,	It.
Reie,	DAN.	Cammaro,	Pont.
Garnaal,	DUT.	Morskoi ratskok,	Rus.
Chevretonne,	FR.	Camaron,	Sr.
Garnole,	GER.	Raka,	Sw.
Jinghi,	HIND.		

Shrimps, in natural history, are classed as macrourous decapodous crustacea, of the families Alpheada, Crangonidae, Pontonia, comprising the genera *acetes*, *alpheus*, *crangon*, *palemon*, *rhynchocinetes*, *sergestes*, *stenopus*, etc., &c.

Acetes, Milne-Edwards, shrimps analogous to *sergestes* in its conformation, but placed at a distance from all the animals of the same order by the absence of the last two pairs of feet. A. Indicus.

Alpheada shrimps are stouter in their forms than those of the *Palemonidae*, but they are not depressed as the *Crangonidae* are; the genera are *atya*, *hymenocera*, *alpheus*, *pontonia*, *autonomea*, *curidina*, *nika*, and *atkanus*.

Alpheus, Fabr., the carapace is advanced above the eyes, forming above each of those organs a small vaulted buckler. Some species are found in the Mediterranean, but the greater part in the seas of the Antilles, or in the Indian Ocean.

The type of the *Crangonidae* family is the com-

mon shrimp, *Crangon vulgaris*, and no other genera are included in it. The common shrimp has the carapace and abdomen almost entirely smooth, with the exception of one small median spine on the stomachal region.

Some species of *alpheus*, a genus of snapping shrimps, occur in China and Singapore. The shield shrimp is a species of the genus *apus*, one of the *Apodidae*.

Palemon shrimps are a useful and delicious genus, and are very numerous. *P. carcinus* of the Indian seas and the Ganges is nearly a foot long.

Shrimps are largely caught in China in baskets, which are baited with wine lees. The baskets are lowered from a boat to the bottom, and after a short time are hauled up and their contents emptied. They are eaten alive by Chinese epicures. They are served up for the table in a vessel which contains yellow wine, strong vinegar, and sesamum oil, and as they leap about vigorously, are eaten.—*Adams; Gray.* See Crustacea.

SHIROFF, properly Siraf, from an Arabic word relating to expenditure. He is a financier, a banker, a dealer in money and exchanges; and may be a Rajput, a Brahman, a Kshatriya, a Vaisya, or a Sudra. He discounts hundi or bills of exchange, bonds, promissory notes; deals in bullion, buys and sells ornaments, jewels, gems of all kinds; lends money on pledges and other security. He makes advances on produce, enters into contracts for supplies. Their account-books are kept by double entry, a day-book and ledger.

SHROTRIYA. SANSK. From *Shroota*, the Veda, a learned Brahman. A Kulin Brahman can marry as many wives as he likes; but there are certain Brahmans in Bengal who find the greatest difficulty in getting married to even one wife, and who generally spend their life in single wretchedness. These are *Bangshajia* Brahmans of the *Shrotriya* class. While a Kulin Brahman gets for every wife that he marries a handsome bribe, a *Bangshajia* *Shrotriya* Brahman has to pay down a large sum of money to the father of the girl whose hand he seeks to obtain. The consequence is that, owing to their poverty, numbers of *Bangshajia* *Shrotriya* Brahmans never get married at all. To remedy this evil, in Eastern Bengal, when in any village the number of unmarried *Shrotriya* becomes inconveniently large, one of the *ghatak* of the place—those under-servants of *Bidhata* who take a prominent part in all marriages—goes to *Shrihatta* in Sylhet. There, with the assistance of his agents in the district, and by means whether fair or foul, he procures a number of girls, to whom he holds out the prospect of a pleasant settlement in life. The girls may not all be Brahman girls,—some of them may be of the Chandal caste, and others may be young widows; but whatever may be their caste, character, and antecedents, they are huddled together in a boat, often 15 or 16 in number, and taken to the *ghat* of the *Shrotriya* village. The faces of the old *Shrotriya* bachelors become lighted up with joy when they hear of the arrival of the hymeneal boat. The sensation which these highly-favoured boats create in Eastern Bengal is infinitely greater than that produced in Calcutta by the orange-boats of Sylhet, or the mango boats of Malda. The *Bangshajia* bachelors besiege the boat in numbers. Each one selects a girl according to his taste, a bargain is struck with the *ghatak*,

SHUM-SHUM.

Jin King, or classes of men, is a Chinese book of great authority. In it the sages occupy the first

SHUM-SHUM, a range which forms about half the wall of the Aden crater, and reaches an altitude of above 1760 feet. There is a huge crack or slip which cuts above a third off the eastern side of the volcano, and through a portion of this, constituting a narrow gorge or pass, 10 feet wide and 20 or 30 feet high, the road from Steamer Point enters the crater, and leads to the cantonments. Dr. J. P. Malcolmson supposes this to have been the remains of the latest great eruption, of which the effects are chiefly manifest on the table-land on the eastern buttress of Shum-Shum. By this the ancient crater was shattered nearly through its centre, from the northern to the southern pass, breaking into pieces and separating the whole of the eastern side of the edge, of which Seera Island is a fragment. And in these views Dr. Buist concurs.

SHUSH. The ground about Shush is very uneven, and numerous mounds or tepeh are scattered in different directions to a considerable distance, some of them being partly covered with brushwood. The highest tepeh among them, of which Major Rawlinson gives rough measurements in his notes on Khuzistan, lies to the east of the Shover stream, but very near it, and to the west of the river Dizful, which is discernible at some distance, plying its course to the south-east. This mound, which may be the place where the prophet Daniel had his vision (although much has been written to the contrary), commands the whole country. From the top of it are seen the ruins of Ivani-Kherk, beyond the river of Kherkheh about a farsang and a half (perhaps less) to the west. A minar or column, with the ruins of Shahpur, are likewise discernible in a north-westerly direction, on the right side of the above-named river.—*De Bode's Lavistan*, ii. p. 194.

SHUSHIAH. ARAB. A tuft of hair on the poll. When travelling, the shushah is allowed to spread over the greatest portion of the scalp, to act as a protection against the sun; and the hair being shaved off about two inches all round the head, leaves a large circular patch. Nothing can be uglier than such tonsure, and it is contrary to the strict law of Mahomed, who ordered a clean shave, or a general growth of the hair. The Arab, however, knows by experience that though habitual exposure of the scalp to a burning sun may harden the skull, it seldom fails to damage its precious contents. He therefore wears a shushah during his wanderings, and removes it on his return home.—*Burton's Mecca*, i. p. 239.

SHUSTER, a city of Persia, capital of Khuzistan, on the river Karoon. In Scripture it is called Shushan, and the river is named Illai. The Sabæans of Shuster make the sign of the cross, beginning from the right to the left shoulder, then touching the forehead, and lastly the pit of the stomach. Baron Silvester de Sacy, in the *Journal des Savans*, says, 'The name applied to them, of Christians of St. John, is quite as little founded in reason, since their doctrine (that of the Sabæans) has nothing in common with Christianity, to which they are greatly averse. This name has been bestowed on them erroneously by missionaries and travellers, who fancied they had discovered, in certain of their religious ceremonies, resemblances with some of the rites of the Christian religion.' The Sabæans recognise St. John the Baptist as the greatest prophet, whom they call Paighambar Yahia, and hence their name of the followers of St. John. As some Musalmans believe in the existence of Mahdi, the twelfth Imam, so the Sabæans are of opinion that St. John (Yahia) is still alive, although invisible, and that he inhabits Syria (Sham). He is expected to return among them with Shethel (Seth, son of Adam), who, for his virtues, is supposed to have been taken up to heaven. Independently of their book of Adam, the Sabæans have two other works; the one contains the life of Yahia, and the other is their ritual. The first, which they call the Sidra, is said to contain twelve thousand questions, with appropriate answers.—*De Bode's Arabistan*, ii. p. 172. See Saba.

SHUST'HI. SANSK. She who is worshipped on the sixth (shust'ha) day. Shust'hi, the goddess of fecundity, a Hindu deity, represented

as a yellow woman sitting on a cat; regarded by the Hindus as the protectress of children, and is especially worshipped by females who have not been blessed with any. She is also worshipped monthly by women who have lost their children, and is generally invoked by parents as their protectress. The cat being sacred to Shust'hi, the Hindus avoid hurting one, lest the goddess should injure their children. She is honoured with six annual festivals, celebrated chiefly by females.—*Ward's Hindoos*, i. p. 39; *Cole. Myth.* pp. 396.

SHU YEE, the Chinese festival of burnt-offerings to the souls of paupers.

SIAH. PERS. Black. Siah bahi, a day-book, a ledger. Siahhi, ink. Siah Koh, the south branch of the Koh-i-Baba.

SIAH POSH KAFIR, a name applied to a mountain race, the ancient Paropamisidae, the literal meaning being black-clothed infidel. From the Hindu Kush, numerous small streams drain in converging and descending lines to concentrate in one deep glen, which continues its course southwards, joined by frequent streams from the inner slopes of the two ridges of Kasghar and Kafiristan, till, having become a large river, it joins the Kunar at Chigar Sarai. The slopes of this valley and these glens form the homes of the Siah Posh, and each little glen is inhabited by its own tribe, each taking its designation from the name of their respective valley. Masson and Raverty say that three rivers, the Kao, Alingar, and Chigar Sarai, flow through their country. The whole of this country is composed of snowy mountains, deep pine forests, and small but fertile valleys, which produce large quantities of grapes, wild and cultivated, and flocks of sheep and herds of cattle, while the hills are covered with goats. Grain is inferior both in importance and abundance. The common kinds are wheat and millet. The roads are only fit for men on foot, and are often crossed by rivers and torrents, which are passed by means of wooden bridges or of swing bridges, made of ropes of withy or some other plant tree. All the villages are described as built on the slopes of hills, so that the roof of one house forms the street leading to the one above it, and this is said to be the constant practice of the country. The people have no general name for their nation. Each tribe has its peculiar appellation, for they are all divided into tribes, though not according to genealogy, but to geographical position, each valley being held by a separate tribe. The fair complexion and regular features of the Siah Posh Kafir, the variously-coloured eye and shaded hair, indicate them to belong to the Indo-European family of nations, and disconnect them from the Tajak, the Hazara, the Uzbek, or the Kirghiz. The region now inhabited by the Siah Posh is surrounded by the countries in which the Greek dynasties ruled, and is encircled by the colonies, posts, and garrisons which they are known to have established, and by military colonies of Macedonians at Alexandria ad Caucasum, Arigæum, and Bazira, and of the garrisons of Nysa, Ora, Massaga, Peucelaotis, and Aornis. Those who suppose that the Siah Posh Kafir are descendants of the Greeks, have their speculations strengthened by the fact that many petty princes and chiefs, some of whom are now Muhammadans, but originally Siah Posh, claim descent from the Macedonian hero, and have

preserved vague accounts referable either to their reputed ancestor's marriage with the fair Rozana or to his amour with the captive queen of Mas-saga. Dr. Wolff supposed them to be descendants of the Israelites. Mohun Lal states that the women possess great beauty, and manage all the out-door business, while their husbands remain in the house, feeding the children in their arms. The Siah Posh place their corpses in deal boxes, and expose them on the summits of hills, like the people of Tibet. The Siah Posh speak a dialect of the Sanskrit, and are said to worship Siva.—*Mohun Lal's Travels; Elphinstone's Caubul; Wolff's Bokhara; MacGregor.* See Kafir.

SIAM, a town 65 miles from the mouth of the Siak river, the entrance of which is on the western side of Bremer's Straits, and about three quarters of a mile wide. Mr. Crawford and Dr. Cantor inform us that the size of enormous size of a kind of shad, which frequents the great river of Siak in Sumatra, constitutes an article of commerce. The Malacca cane, the Heotau of Cochin-China, is the long internodes of the Calamus scipionum of Loureiro. They are brought from Siak; some of them are simply mottled or clouded, others of a brown colour, in consequence, it is said, of their having been smoked. The most slender specimens, with the longest internodes, are the most valued.—*Crawford; Cantor; Griffiths.*

SIALKOT, one of the most ancient of the forts and cities of the Panjab, is supposed to have been the capital of Rassalu, whom General Cunningham identifies with the son of Salivahana, the Vikramaditya who overthrew the Saka in A.D. 78. The Siakot district, lying between lat. 31° 56' and 32° 50' N., and long. 74° 16' and 75° 3' E., has an area of 1955 square miles, and a population above a million. The fort, which adjoins the city to the westward, is a high oblong mound, with rectangular defences of curtains and round towers, massively built of brick and mortar. Bactria or Indo-Greek coins are found in the ruins, but not in any numbers. The commonest, perhaps, is the copper coin of Apollodotus.

The principal Hindu and Sikh tribes comprise 35,928 Brahmans, 11,734 Rajputs, 19,274 Kshatriyas, 14,264 Aroras, and 86,362 Jats, besides a few Banyas, Gujars, and Ahirs. The Muhammadans include 13,570 Sayyids, 2831 Moghuls, 3079 Pathans, 45,465 Rajputs, 137,065 Jats, 10,263 Gujars, and a small sprinkling of others. The district is in a pleasant, fertile strip under the Himalaya. It produces grain of all kinds, gur, cotton, and flax; its manufactures are country paper, cloth (coarse), soosee, pashmina work, and koftgari or work inlaid in gold.—*Beng. As. Soc. Jour.*, 1854, p. 146; *Imp. Gaz.*

SIAM, a state of Further India, extending from the Gulf of Siam to lat. 23° N. It is bounded on the W. by Burma and the Bay of Bengal, on the E. by the Lai mountains. Siam proper is in the valley of the Menam. The boundaries on the Bay of Bengal reach from British Burma in a southerly line to the boundary between Perak and Kedah in the Malay Peninsula, in the latitude of 5° N. Junk-Salung Island contains tin; it belongs to Siam. The boundary line runs nearly east from Perak across the Peninsula, between Tringau and Pahang to the China Sea, thence north to the head of the Gulf of Siam. The kingdom also comprises the greater part of the ancient domain

of Lao, and, since 1862, Battambang, which it conquered.

The Siamese mountains run north to south along the Tenasserim Provinces, and attain elevations from 3000 to 5000 feet. The mountains in Ye province run in three parallel ridges, from 3000 to 4500 feet high, gradually diminishing towards the coast to about 500 feet. The Buffalo mountains, about 700 miles from Moulmein, 1543 feet. The dominions of Siam touch the frontier line of the Tenasserim Provinces. As the crow flies, the British boundary of Tenasserim and the Siamese capital are not more than 100 miles apart.

Borgman estimates the whole area of Siam and its dependencies at 290,000 square miles, Crawford at 190,000 square miles. Siam itself pays tribute to China; the king of Siam seeks from the emperor at Peking a special recognition of his right to reign. Siam proper may be deemed a vast plain, from which the mountains rise higher and higher as we reach the Laos dependencies.

The kingdom of Siam is composed of 41 provinces, each governed by a phaja or functionary of the highest rank, and a considerable number of their districts are under officials of lower ranks.

Pallegoix estimated the population of Siam at 6,000,000—

Siamese Proper		
(the Thai),	1,900,000	Malays, 1,000,000
Chinese,	1,500,000	Cambodians, 500,000
Laos,	1,000,000	Peguans, 50,000
		Karen, Hong, etc., 50,000

Siam, with its dependencies, is thus occupied by the dominant Thai, a vast Chinese population, the Laos people, the Cambodians in such parts of Cambodia as recognise the Siamese authority, the Peguans in a part of the Mon or Pegu territory, numerous Malayan tribes, with a variety of mountain races subject to the government of Bangkok. The Siamese are located principally on the two banks of the Menam, and on those of the tributary streams which flow into that great river from the latitude of 13° to about 20° N. They also occupy the gulf from the head of the peninsula down to lat. 7° N., where the Malayan races are settled. To the east of the British possession on the Tenasserim coast, in lat. 11° up to 16° 30' N., about two-thirds of the peninsula is peopled by Siamese races. Indeed, the valley of the Menam, throughout its whole course, is exclusively Thai, and the Thai attain their highest civilisation on the alluvial delta of their river. The Siamese proper, the Khamti, the Laos, and the Shan, form the Thai or Siamese ethnic group. The bulk of the Laos people who are subjects of Siam are spread over the great valley through which the Mei-kong or principal river of Cambodia flows, between lat. 13° and 21° N. Laos is said to contain more square miles than Siam itself; all its princes are tributary to Siam. The Shan states of Zimmay, Rahaing, and Labong are feudatories of the present sovereign of Siam. On the demise of any of the chiefs of these states, the king of Siam appoints the successor, but it is customary to allow the eldest son of the former chief to succeed. Karen inhabit the mountain ranges on the Burmese frontier up to lat. 21°; the Lawa, a more numerous people, the same regions farther south; the Ka, the mountainous district between the Menam and the Mei-kong. The Hong dwell on the hilly region in the N.E. angle of the Gulf

of Siam, from the latitude of about 11° 30' to 13° N.

The Siamese are physically superior to the natives of the Indian Archipelago, if we except those of Bali; indeed, the Balinese and Siamese bear a striking resemblance to each other. The hue of their skin is a shade darker than that of the Chinese, but they have fairer complexions than the Malays and Javanese. The dress of both males and females consists of a cloth wrapped round the waist, one end being brought between the legs and fastened behind, which gives this portion of their attire the appearance of a pair of trousers. The women, in addition, wear a cloth wrapped round the body, under the arms. Both men and women shave their heads, with the exception of a small round patch which is left between the crown and the forehead. This being brushed up, is made to stand on end. The number of the talapoins or priests is enormously disproportioned to the rest of the inhabitants. In Bangkok alone their numbers exceed 30,000.

There have been four dynasties of kings. The first dynasty had a succession of 21 kings, whose united reigns extended over a period of 252 years, from A.D. 1351 to 1603. The next dynasty had 3 sovereigns, who reigned 28 years. The third dynasty began by the Siamese nobles putting aside a minor 9 years old, and setting up the prime minister as king, who began to reign in A.D. 1633, and occupied the throne for 26 years. This dynasty had 9 kings, who were in power 136 years, when the Burmese sacked the capital in A.D. 1767, and carried away many captives. The chief of the Siamese army rallied the Siamese under him at Tonta Buri, which is now the site of a palace. The ancestor of the present dynasty was a Siamese general of great celebrity, who took the throne A.D. 1782, and reigned for 27 years.

The kings of Siam, from the time the old city Ayuthia was built, Chola era 712 = A.D. 1351, furnished by P'ra Alak, the chief of the king's scribes, and doubtless with the approbation of his majesty; designed by him, it is supposed, to correct the list of the kings published in the calendar for 1860. That within the brackets does not belong to P'ra Alak—

First Dynasty.

Names.	Chola Era.	A.D.	Length of reign.	
			Ys.	Ms.
1. Somdet P'ra Rama T'ibaw-dee,—1st,	712	1351	20	0
2. Somdet P'ra Rame-sooan,—son of the 1st, Who abdicated for	732	1671	1	0
3. Somdet P'ra Bawroma-Rach'a-T'irat,	732	1371	13	0
4. Chow oo-t'awng lan,—son of the 3d,	744	1383	7 days.	
5. Somdet P'ra Rame-sooan,—assassinated the 4th, Being the same person of the 2d reign.	744	1382	6	0
6. Somdet P'raya P'ra Ram,—son of the 5th,	759	1398	15	0
7. Somdet P'ra Nak'awn In,	763	1402	18	0
8. Somdet P'ra Bawroma-Rach'a-T'irat,—son of the 7th,	780	1419	17	0
9. Somdet P'ra Bawroma Trei Lokanat,—son of the 8th,	796	1435	16	0
10. Somdet P'ra Int'a-Rach'a,—son of the 9th,	811	1450	22	0

Names.	Chola Era.	A.D.	Length of reign.	
			Ys.	Ms.
11. Somdet P'ra Rama-T'ibawdee,—the 3d,	832	1489	40	0
12. Somdet P'ra Bawroma-Rach'a Naw P'oot Tang,—son of the 11th,	871	1510	5	0
13. P'ra Rataat'a T'irat,—son of the 12th, 5 years old,	875	1514	0	5
14. Somdet P'ra Ch'e'i Rach'a T'irat,—son of the 12th, killed by the 13th,	875	1514	15	0
15. P'ra Yawt Fa,—son of the 14th, aged 11 years,	889	1528	2	6
The 15th was slain by K'oon Warawongsa-T'irat, who took the throne, and reigned 5 months. Being a usurper, his name is not allowed to have a place among the names of Siamese kings. He was assassinated by K'oon P'ironat'ep, who placed on the throne P'ra Teean Rach'a, who bore the name.				
16. Somdet P'ra Maha Chakra-Patdi-Rach'a-T'irat,	891	1530	27	0
17. P'ra Mahin Ta-Rach'a-T'irat,—son of the 16th, The capital of the kingdom was taken in 918 by the king of Hongsa-wadee or Pegu.	917	1556	1	0
18. Somdet P'ra Maha Tama, Rach'a-T'irat,	918	1557	23	0
19. Somdet P'ra Naret,—son of the 18th,	940	1579	16	0
20. Somdet P'ra eka-Totsarot,—a younger brother of the 19th,	945	1584	9	0
21. Chow Fa Sri-Sawara-Pak,—son of the 20th,	962	1603	1	2

Here closes the dynasty of Somdet P'ra Rama T'ibaw-dee, being 20 different kings, one of whom reigned twice.

Second Dynasty.

22. P'ra Chow Song-T'am,—slaw the 21st and reigned, [He acquired a great name by his pretended discovery of Buddha's footprint at Prabat.]	964	1603	26	0
23. P'ra Ch'e'a - Otsarot,—an elder brother of the 22d, The prime minister, Chow P'aya Kralahom Sri Sooriwong, assassinated the 23d, and placed on the throne	989	1628	1	7
24. P'ra At'itaya Wong,—a brother of the 23d, 9 years old,	992	1631	0	5

Here closes the dynasty of P'ra Chow Song-T'am,—3 reigns.

Third Dynasty.

The former king was driven from the throne by the Siamese nobles and lords, whose place they filled by the prime minister above mentioned, viz.—

25. P'ra Chow Prasat T'awng,	992	1631	26	0
26. Chow Fa Ch'e'i,—son of the 25th,	1017	1656	0	9
27. P'ra Soot'ama Rach'a,—killed the 26th and reigned,	1018	1657	0	28
28. Somdet P'ra Narai,—son of the 25th, killed the 27th,	1018	1657	26	0
29. P'ra Pe't Rach'a, He is called a usurper, and is not allowed an honourable place among the kings.	1044	1683	16	0
30. P'ra P'oot'a Chow Sua,—son of the 27th,	1059	1698	10	0
31. P'ra Chow Yoo-hooa t'ei,—son of the 30th,	1069	1708	27	0

Names.	Chola Era.	A.D.	Length of reign.	
			Ys.	Ms.
32. P'ra Chow Yoo-hooa Bawromakot, brother of the 31st.	1094	1733	26	0
33. Chow Fa Dawkmasua,—son of the 32d. And then abdicated the throne for his elder brother.	1120	1759	10 days.	
34. P'ra Chow Tinang Sooriya-Marin-t'ara.	1120	1759	9 days.	
The close of the dynasty of Prasat T'awng, being 9 kings in all, the usurper being excluded. The whole term in which the above-named 34 kings reigned is 417 years, averaging 12 3/4 years each.				
[The Burmese sacked the capital in the year 1767, and carried away many captives. The chief of the Siamese army rallied the Siamese under him at Tonta Buri, which is now the site of H.R.H. Kromaloang Wongsa-t'iat-sait's palace. He built a walled city in this place, and reigned as king P'aya Tak.]				
35. P'aya Tak,	1129	1767	15	0

The Fourth and present Dynasty.

A Siamese general of great celebrity under P'aya Tak, took the throne, named

36. Somdet P'ra Bawroma-Rach'a P'ra P'oott'i Ywat Fa,	1144	1782	27	0
37. P'ra P'oott'i Lot-La,—son of the 36th,	1171	1809	15	0
38. P'rabat Somdet P'ra Sang-Klow,—son of the 37th,	1186	1824	27	0
39. P'rabat Somdet P'ra Paramendar Maha Mongkut,—son of the 37th, succeeded to the throne,	1213	1851	12	0
40. P'rabat Somdet P'ra Paramendar Maha Chula-long-korn Klow, son of the 39th,	1230	1868	Still reigning.	

The Siamese head may be considered as a remarkable modification of the Burma-Chinese head, with a peculiar tendency to elongation and verticality. They have large straight faces, flat occiputs, lowness of the hairy scalp, comparatively small and firm mouth, hard staring eye, and a grave expression.

The Siamese are gentle, cheerful, timid, careless, and almost passionless. They are disposed to idleness, inconstancy, and exaction; they are liberal almsgivers, severe in enforcing decorum in the relations between the sexes. They are fond of sports, and lose half their time in amusements. They are sharp and even witty in conversation, and resemble the Chinese in their aptitude for imitation. There is a passion for jewellery and ornaments of the precious metals, stones, etc. It is said there is scarcely a family so poor as to be without some valuable possessions of this sort. Rings of silver and gold adorn the arms and the legs of children; rich necklaces, ear-rings, and belts are sometimes seen in such profusion as quite to embarrass the wearer. Female children, up to the age of 12 or 13, wear a gold or silver string with a heart in the centre, performing the part often assigned to the fig-leaf in exhibitions of statues. To the necks of children, a tablet, called a bai soua, is generally suspended, bearing an inscription, as a charm against mischief; and men have a metallic ball attached to a belt, to which they attribute the virtue of rendering them invulnerable. A necklace, consisting of seven lumps of gold or silver, is worn by girls as a protecting influence; the panung is one of the

garments worn by the Siamese, called by the Portuguese panks.

Between the Buddhists of Siam and Ceylon there has been much intercourse; and during the efforts made by the Buddhist monks of Ceylon in the defence of their religion and in their attacks on Christianity and on Jehovah, the king of Siam and one of the native chiefs of Kandy contributed largely towards the publication of the numerous tracts, pamphlets, and serials that were sent forth from the Buddhist printing presses of Ceylon.

Pali is the sacred literature of the Siamese, and is called Pali, Bali, and Pasa Makata (Bhasha Magadha), the language of Magadha. The alphabets of the T'hai or Siamese, of the Burmese, and of the Mon of Pegu, are of Indian origin. No dialect of the T'hai is intelligible to a Burmese. The alphabets also differ, but, on the whole, the essentials of their civilisation is the same, the chief difference being in the language. The Laos alphabet slightly differs from that of the Siamese proper, but, practically speaking, the language is spoken with remarkable uniformity over the whole T'hai area and Siamese proper; the Laos, the Shan dialects, and Khamti are one.

The Siamese tongue appears by far the most widely spoken language of Ultra-India. It was at one time the lingua franca of Kedah, almost as much as the Malay, and even that wandering Negro tribe the Semang spoke it in some places. It was also current in Assam and Yunnan at the opposite extremities of Ultra-India.

Though wives or concubines are kept in any number, according to the wealth or will of the husband, the wife who has been the object of the marriage ceremony called the Khan mak, takes precedence of all the rest, and is really the sole legitimate spouse; and she and her descendants are the only legal heirs to the husband's possessions. Marriages are permitted beyond the first degree of affinity. A widow may marry her deceased husband's brother, and a widower his deceased wife's sister. Sovereigns may marry a sister or a daughter to preserve the royal race. After child-birth, the mother is placed near a large fire, where she remains for weeks exposed to the burning heat, and death is often caused by this exposure. The king himself attempted to interfere; but his young and beautiful wife, though in a state of extreme peril and suffering, was subjected to this torture, and died while 'before the fire,' a phrase employed by the Siamese to answer the inquiry made as to the absence of the mother. In Siam, with laymen of rank, as with the priesthood, the dead are embowelled, and the body preserved embalmed for a long period before being consumed on the funeral pile. In their disposal of the dead body of a Khroopacha Acharya, or spiritual guide of superior sanctity, the rewards awaiting those who perform the funeral rites are innumerable. The bodies of the poorer classes are exposed to the elements and beasts of prey. Coal of excellent quality has been discovered. Gold was discovered in Kabin, copper and iron at Lapaburi, and lead and tin at Kanburi. In the Precious-Stone Mountain, the topaz, the ruby, the sapphire, the garnet, and others are found.

The principal articles of export from Bankok are rice, sapan-wood, sugar, pepper, hides, horns, cardamoms, til seed, tin, stick-lac, silk, paddy,

teak timber, ebony, rosewood, mangrove bark, gum benjamin, gamboge; and all the spices of the Southern Peninsula and the islands grow.—*Latham's Ethn.*; *Siam and Cambodia*, by D. C. King; *Jour. Royal Geo. Soc.*; *Bowring's Siam*, i. p. 27; *Earl's Archipelago*, p. 168; *Jour. Ind. Archip.*, 1847; *Crawford's Embassy*; *Aitcheson's Treaties*, p. 315; *Rangoon Times*, 1863.

SIAMULIUM, *sp.*, the Peepsa, a troublesome dipterous insect, swarms on the banks of the streams uniting with the little Ranjit river in Sikkim. It is very small and black, floating like a speck before the eye; its bite leaves a spot of extravasated blood under the cuticle, very irritating if not opened.—*Hooker's Jour.* i. p. 157.

SIAO, on the N.E. of Celebes, is an island larger than Tagolanda, and is rendered very conspicuous by a high conical volcanic peak, in lat. 2° 43' N., and long. 125° 35' E.

SIBEL. ARAB. Water offered at any time gratis to any person, dispensed in the name of God. It means also, a way, a path. Fi Sabil Allah, in the way of God.

SIBERIA, a great region in the north of Asia. Its conquest by Russia, which the Cossack Irmak began in the 16th century, was completed before the year 1650 by the annexation of the country lying to the north of the Amur, and by the subjection of the more important Tungusian tribes, and Russia became directly interested in the condition of the northern dependencies of China, and of the great high-road through Kiachta and Kalgan to the capital. The population of Siberia, including the nomadic tribes and the colonists (if they can be called so under the compulsory regime), is 3,911,200, divided among the provinces as follows:—Tobolsk, 463,000; Tomsk, 324,000; Irkutsk, 165,000; Yenisei, 164,000; Transbaikal territory, 141,000; Amur, 300,000; Maritime Provinces, 13,000; Yakutsk, 112,000. The Siberian territory has an area of 10,709,000 square versts.

Tungus is a general name applied to a population common to a vast area in Siberia and China. Their physiognomy connects them with the tribes of Northern Asia in general, and their language forms a transition between the monosyllabic and agglutinate forms of speech. The Tungus, under the name Manchu, constitute the dominant population of China itself. The tribes under Chinese rule, in Manchuria, on the watershed of the Amur or Sagalin, are termed Manchu. The Manchu proper have a literature with an alphabet modified from the Mongol. They are agricultural and industrial. The Daurian is a Tungus race dwelling on the Upper Amur, all well made, especially the women.

SIBAGOR, in Assam, situated 11 miles from the south bank of the Brahmaputra, in lat. 26° 59' 10" N., and long. 94° 38' 10" E.; pop. (1872), 5278. It is the civil station of a district of the same name in the extreme S.E. of the valley, between lat. 25° 19' and 27° 16' N., and long. 93° 21' and 95° 25' E. The great bulk of the population are pure Assamese, more or less converted to Hinduism. The once dominant Ahom, numbering 94,304 souls, still supply one-third of the total inhabitants. They are now cultivators, but retain many of their ancient habits and institutions. Some of them eat beef and pork, and also bury

instead of burning their dead. The Chutia (31,342), of the same original stock as the Ahom, and their predecessors in the government of the upper valley of the Brahmaputra. The Koch (23,965) are members of a tribe whose present chief locality is in the Bengal State of Koch-Bahar, but who ruled at one time over the greater part of Assam, before the arrival of the Ahom. The Dom (16,277) lay claim in Assam to high-caste purity, but reject the ministrations of Brahmans. Aborigines proper include the Cachari (15,320), who are largely employed on tea-gardens; 6862 Miri from North Lakhimpur; and a number of minor tribes, of whom many, such as the Kol, Uraon, and Santal, are imported labourers from Chutia Nagpur. The Hindus are subdivided into the four following sects:—Tantrik, Bhagvatiya, Mahapurushiya, and Thakuria. According to the 1872 census report, the Vaishnava number 94; the Mataks, who are converts to Vishnuism from among the aborigines of Lakhimpur, 84; the Gosain, or religious teachers of the various sects, 407; the Nanakshahis, or followers of the founder of the Sikh religion, 140.

SIBUNDEE, armed men, in temporary employ as soldiers. It is from Sipah - Hindi, the Indian sepoy. The Moghulai were always kept enrolled.

SICHEL or Shesha Hills are locally known as the Nirnul Range, which extends from the confluence of the Wardha and Godavery, lat. 18° 48' N., and long. 80° E., till lost in the gradual rise of the country near Lonar, in lat. 20° N., and long. 76° 30' E. The Godavery river, after entering the granitic table-land of the Dekhan, flows at the southern foot of the Sichel mountains into a sandstone and argillaceous limestone country. This district is similar to that of Bundelkhand and Malwa; it also contains diamonds.

SIDA, a genus of plants of the natural order Malvaceæ. 34 species are known to occur in the E. Indies, amongst them—

- S. acuta*, *Burm.*, Kureta, Bengal, both Peninsulas.
- S. alba*, *Linn.*, Nag-bula, Nag-barjala, Bengal, Coromandel.
- S. cordifolia*, *Linn.*, Barjala, Bengal, both Peninsulas.
- S. cuneifolia*, *Linn.*
- S. humilis*, *Willd.*, Bengal, both Peninsulas.
- S. microphylla*, *Cuv.*, Bengal.
- S. retusa*, *Linn.*, Bengal, both Peninsulas.
- S. rhombifolia*, *Roxb.*, Lal-barjala, Bengal.
- S. rhomboidea*, *Roxb.*, Shwet-barjala, Bengal, both Peninsulas.
- S. periplocifolia*, — ? Malayana.
- S. tiliaefolia*, — ? China, India.

The species vary much in habit and in the structure of their fruit and seeds, but they resemble each other in abounding in mucilage, and in some of them having tough ligneous fibres, which are employed for cordage. Several are employed as demulcents in India, in the same way that the mallow and the marsh-mallow are in Europe. *S. rhomboidea* and *S. rhombifolia* abound in very delicate flax-like fibres, which may be used for many of the same purposes as hemp and flax; but when the plants are grown for the sake of their fibres, they ought to be sown thick; under which circumstances, like other plants similarly sown, they grow tall and slender without branches. *S. periplocifolia*, a native of the Malay Islands, which succeeds well in India,

may be cultivated for the same object, especially as when cut near the earth it quickly shoots into long simple twigs, which abound in flax-like fibres. *S. tiliaefolia*, T'sing-ma from Pekin, is cultivated for this purpose in China as a substitute for hemp and flax. *S. lanceolata* is the Vishabuddi of Telingana. The Sida hemp, or flax of Burma, is the product of *S. acuta* and *S. stipulata* (Burmese, Pyen-dan-gna-len). They are mere weeds, but the most troublesome in Tavoy.—*Roxburgh*; *Mason*; *Eng. Cyc.*; *W. Ic.*; *Voigt*; *Hogg*.

SIDA ACUTA. *Burm.*

<i>S. lanceolata</i> , <i>Retz.</i>	<i>S. scoparia</i> , <i>Lour.</i> , <i>Rheede.</i>
<i>S. Stauntonia</i> , <i>D. C.</i>	<i>S. acuta</i> , <i>Burm.</i>
Kureta, . . . BENG., <i>HIND.</i>	Malai tangai, TAM., <i>TEL.</i>
Bariana, Kharanta, . . . "	Visha bodi, . . . "
Barjala, "	Chittiamutti, "
Jeru pana, MALAY.	Muttav pulagam chettu, "
Pata, SANSK.	Sahadevi chettu, "
<i>Arna manopendu</i> , . . . TAG.	

Flowers small, yellow; a native of the Peninsula of India; grows to the height of about three feet; and no doubt, like the *S. rhomboidea*, a good fibre might be procured from it. The root resembles common liquorice, but is very bitter. The infusion of the root combined with ginger is given in intermittents, and in chronic diarrhoea. The leaves bruised with oil are applied externally as a poultice to accelerate suppuration. It promotes perspiration, increases appetite, and is in many respects a useful substitute for more costly bitters. An electuary is prepared in Bengal from the expressed juice of the Sida, and used in the treatment of worms in the intestinal canal; but experienced native practitioners say that no reliance can be placed on its efficacy. An infusion of the root is a very useful bitter tonic and astringent.—*Roxburgh*; *Voigt*; *Ainslie*; *Riddell*; *O'Sh.*

SIDA CARPINIFOLIA. *Linn.* Its root is intensely bitter, and is given in infusion in intermittent fever.—*J. A. Murray*.

SIDA CORDIFOLIA. *Linn.*, *W. A.*, *Roxb.*

<i>S. rotundifolia</i> , <i>Cav.</i>	<i>S. herbacea</i> , <i>Cav.</i>
Barjala, BENG.	Tella antia, TEL.
Bariana, HIND.	Muttava, Suvarnam, "
Kharanta, Kharenti, "	Tella gora chettu, "
Ohiri benda, TEL.	

Seeds.

Bijband, HIND.	Kowar, Simak, HIND.
Ohuka, Hamaz, "	

A plant of both Peninsulas of India, of Bengal, and the Panjab. It has middle-sized yellow flowers. Its mucilage, mixed with rice, is given in dysentery and fevers, and its seeds in colic, tenesmus, and gonorrhoea, also taken as an aphrodisiac.—*Roxb.*; *Voigt*; *Stewart*.

SIDA PERIPLOCIFOLIA, a native of the Malay Islands, flowering and ripening its seed a great part of the year. Its bark abounds in serviceable flaxen fibres, and as it shoots quickly into long, simple twigs, particularly if cut near the earth, it answers well for procuring fibre of good length for most purposes.—*Roxb.*; *Voigt*; *Royle*.

SIDA RETUSA. *Linn.*

Kurun tudi, MALAY.	Kurun tuti, TAM.
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A plant with small yellow flowers, growing in Bengal, Malabar, and Travancore, used in medicine.—*Roxb.*; *Voigt*.

SIDA RHOMBOIDEA. *Roxb.*, *W. A.*

Sida rhombifolia, *Wall.*

Shwet-bariala, BENG.	Safed-bariala, HIND.
Shwet-barjala, "	Atibala chettu, TEL.

A plant with small yellow flowers, growing in the rainy season in Bengal and the Peninsula of India, where the plants are indigenous. The bark yields abundance of very delicate flax fibres, which might be advantageously employed for many purposes. When the seed is sown thick on a good soil, the plants grow full and slender, without branches, and are every way fit for such purposes. Major Hanney sent from Assam to the Agri-Horticultural Society, in December 1851, some of the fibre, and Captain Thompson thought from its length, its similarity to silk, and its great strength, that it would fetch a high price in England. A line half an inch in circumference, after exposure to wet and sun for ten days, sustained 400 lbs.—*Roxb.*; *Royle*; *Voigt*.

SIDA TILIAEFOLIA, Ts'ing-ma, CHIN., is cultivated for its fibres in China, near Pekin. It is said to be the common fibrous plant of Northern China. Its fibres and those of *Dolichos bulbosus* furnish coarser sorts of the China grass cloth. The fibre is strong and pliable, very silky in its nature, and the plant of very rapid and luxuriant growth, three crops being obtained in one year. It may, it is said, be brought into England at an estimated price of £8 per ton, which is about one-fifth of the price of hemp of the best quality. Some of Dr. Roxburgh's original specimens, marked July 1804, were from four to five feet in length, and display a fine soft and silky fibre, as well adapted for spinning as the jute, and apparently superior.—*Dr. Roxb.*, *Royle*.

SIDDHA, genii worshipped by the Tantrikas. The Siddha and Vidyadhara are a class of ascetics, also a class of celestial beings of an intermediate order between men and gods, tenanting the middle regions above the earth, and are usually described as attending upon Indra, although they have chiefs and kings of their own. The Vidyadhara have much intercourse with men, intermarrying with mortals, and often having earthly princes and heroes for their kings. The Siddha are a more retired race, and are rarely the subject of fabulous or mythological legend. Charana and Sura are terms used in place of Vidyadhara, implying inferior demigods.—*Hind. Theat.* ii. p. 308; *As. Res.* xvi. p. 21.

SIDDHA, in Tamil Sittar, a Tamil sect, now extinct, which retained Siva as the name of God, but rejected everything in the Saiva system which was inconsistent with pure theism. They cultivated alchemy as sedulously as the Arabians, from whom unquestionably they derived their knowledge of it. One of their number asserted that he visited Arabia, and another refers to the Franks. Several of them refer to the Turakhas, the name by which the Indian Muhammadans are known in the south. All their compositions are modern and colloquial, with grammatical forms unknown to the ancients. Most of this school took the names of rishis and renowned teachers. One of them called himself Agastyas, another Sankaracharya, a third Gautama, and this audacity was perfectly successful. Native Christians fancy them to have been endowed with a

prophetic spirit, and to have meant Christ by the Sat-Guru (True Teacher), to whom they constantly refer.

SIDDHANTA. SANSK. Conclusion, from Siddha, proved, and Anta, end. The Siddhantas are Jaina works held in the same veneration by them as the Vedas are by the Brahmanical Hindus. Siddhantachari, from Siddhanta, ascertained or proved, and Acharin, practice. Siddhanta Siromani, a treatise on astronomy by Bhaskaracharya.—*As. Res.* xvii. p. 243.

SIDDIH. HIND., SANSK. The large leaves and capsules of the hemp plant, without the stalk.

SIDEROXYLON, a genus of plants of the order Sapotaceæ, natives of America, Africa, East Indies, and Australia.

- S. Cantonense, — ? Shan-kan-shii, China.
- S. cinereum, Lam., Mauritius.
- S. tomentosum, Roxb., Eastern Ghats.
- S. inerme, Lam., — ?
- S. regium, Wall., Pegu.
- S. Wallichianum, G. Don, Penang.
- S. clengioides, Benth., W. Ghats.

The species of Sideroxylon are evergreen trees, with axillary and lateral fascicles of flowers. They are remarkable for the hardness and weight of their wood, which sinks in water, and the genus has hence derived the name of iron-wood.

Sideroxylon tomentosum, the Hoodigalla of the Canarese, is an evergreen tree of Western Mysore and of the Prome district of Burma.

Sideroxylon clengioides, Benth. and Hooker.

Achras elengioides, D. C., Bedd.

Holay, . . . BADAGA. | Pala, TAM.

A common tree of the Western Ghats; wood dull red, straight grained, dense, and used for house beams and carpenters' planes; fruit pickled and curried.—*Roxb. i.* p. 602; *Bedd.*; *Gamble.*

SIDH, a Sikh ascetic who has the power to suspend animation.

SIDI, the term by which the Abyssinian and Negro races of Africa are known in India. They were often employed in the households of native sovereigns. Some of them, known as the Sidi of Janjera or Zanjera, were long a powerful and independent maritime people, occupying the coast a few miles south of Bombay. They were employed under the Bijapur State and the Moghul emperors as naval officers. The name is from Syud, ARAB, a lord.

SIDI MOULA, a native of Persia, a darvesh who visited the court of Jalal-ud-Din at the close of the 13th century, and was murdered by a body of Kalandars.

SIDON, a great seaport city of the ancient Phœnicians, the foundress of Carthage, but now the modern Saida, little more than a port for fishing-smacks.

SID RAI JYE SINGH. In the Komarpal Charitra, or history of the kings of Anahulwarra Puttun, the reign of Sid Rai is stated to have been from S. 1150 to S. 1201, or A.D. 1094 to 1145. His court was visited by the Nubian geographer Edrisi, who states that Jye Singh was then a Buddhist.—*Tod's Rajasthan*, ii. p. 242.

SIEBOLD. PH. FR. von Siebold, C. J. Temminck, H. Schlegel, and W. de Haan, oriental scholars who have written on the East Indies. Siebold's works were Nippon Archiv zur Beschreibung von Japan, Leyden 1832; Voyage au Japon, en 1823 à 1830, Paris 1838.

SIEGESBECKIA ORIENTALIS. *Tatarinov.* He-kien and Kau-kau, CHIN., a plant of the China provinces of Sze-chuen and Ho-nan. It is esteemed for its emetic properties, and is given in ague and rheumatism.

SI-FAN. CHINESE. Literally Western Aliens. Si-western, fan barbarians, a term applied by the Chinese to the people of Sokyul, Andks, Thochu, Gyarung, and Manyak, between Tibet and China. Each of these has a separate ruler, styled Gya-bo, equivalent to the Chinese Wang. The Tibetans frequently designate them Gyarung-bo, from the special importance of the Gyarung, which reckons 18 chiefs or banners, a power sufficient in former times to have resisted or attacked the imperial dynasty. The Sifan country extends with a varying breadth from the Blue Sea to Yunnan.

SIFERAH or Sipperah, the Siferah of the Arabs. Its ruins are within the Medina wall, near the southern extremity.

SIGHELMUS. William of Malmesbury states that in 883, Sigheilmus of Sherborne, sent by king Alfred to Rome with presents to the Pope, proceeded thence to the East Indies to the tomb of St. Thomas at Mailapur, a suburb of Madras, and brought back jewels and spices.

SIGNATURE. The millions of the various races of the east and south of Asia who are unable to write, attest written documents with symbols of their trades, etc., that of the Ho is an arrow mark. Many of the military races make the mark of a dagger; mercantile races, a balance; the Mhang attach the figure of a knife.—*W.*

SIH. PERS. Three; hence—

Sih-barga, a species of trifolium.

Sih-pahi, a soldier, from the tripod rest for his matchlock.

Sih-pai, a tripod table, a teapoy.

Sih-tara, a guitar.

Sih-yari, a term applied to the Shiah Muhammadans.

SIHARA. SANSK. A Hindu marriage wreath.—*Growse.*

SIJ. BENG., HIND. The generic name for species of Euphorbia. Lanka sij, *E. tiraculli*; Manasa sij, *E. ligularia*; sij, *E. nivulia*; Tekata sij, *E. antiquorum*, the milk hedge plant. The root of *E. ligularia* is mixed with black pepper, and used in snake-bites. The juice of *E. nivulia* leaves is purgative and deobstruent, and mixed with margosa oil is applied externally in rheumatism; as also is the juice of *E. antiquorum*. The fresh juice of *E. tiraculli* is acrid and applied as a blister. *E. ligularia* is sacred to Manasa.

SIKAKUL, a root like a carrot, brought from Kashmir; used in Ajmir as an aphrodisiac.—*Gen. Med. Top.* p. 150.

SIKANDAR-NAMA. Book of Alexander the Great, written A.D. 1200, by Abu Muhammad-bin-Yusuf-bin-Muayyid-i-Nizam-ud-Din, is a poem of 6886 verses. It abounds with obscure allusions to facts, traditions, and sentiments of a bygone time, with peculiarities of construction, curious idioms, and unusual uses of words.

The traditions of Alexander the Great, as told by the Persians, differ widely from those preserved by the Greeks. One of its commentators, Syed Seif-ud-Din, says that Hind means dark or black, the colour appropriated to the planet

Saturn, under whose influences Hind or Hindustan is reckoned.

SIKANDRA, a town in the Agra district, N.W. Provinces, in lat. $27^{\circ} 12' 59''$ N., and long. $77^{\circ} 59' 84''$ E., 5 miles N.E. of Agra city, on the Muttra road. It contains the tomb of Akhar, commenced by that monarch, and finished by his son Jahangir in 1613. The total height of the building now is a little more than 100 feet to the top of the angle pavilions. An asylum was established at Sikandra in 1837-38 for orphans whose parents had perished in the terrible famine of that year.—*Imp. Gaz.* viii.

SIKERWAL, a Rajput tribe on the right bank of the Chambal.

SIKH, a religious sect in the Panjab, followers of Nanak. They are principally of the Jat race, and under Ranjit Singh obtained sovereignty over the Panjab. Their numbers are estimated at 1,853,426. The first converts were amongst the Jat peasants of Lahore and the southern banks of the Sutlej river, and the Jat of the Manjha and Malwa districts are mostly of this persuasion. The Sikhs in the time of the guru Govind assumed the title of Singh as their distinctive appellation, meaning, metaphorically, a champion warrior. The Sikhs should abstain from the use of tobacco and all intoxicating drugs, but they all drink heavily, the military life which the most of them adopted not being conducive to moral purity. The Akali were the zealots of the Sikh religion, soldiers of God. They wore blue dresses and bracelets of steel, and claimed for themselves a direct institution by Govind Singh. They combined warlike activity with the relinquishment of the world, became the armed guardians of Amritsar, but in a frenzy of zeal would win their daily bread at the point of the sword. It cost Ranjit Singh both time and trouble to suppress them. So strong is the feeling that a Sikh should work, or have an occupation, that one who abandons the world, and is not of a warlike turn, will still employ himself in some way for the benefit of the community. Thus, Major Cunningham once found an Akali repairing, or rather making, a road among precipitous ravines, from the plain of the Sutlej to the petty town of Keeritpur. He avoided intercourse with the world generally. He was highly esteemed by the people, who left food and clothing at particular places for him. The Sikh take their name from the Hindi word Sikhna, to learn, Sikh meaning a disciple. During the 16th and 17th centuries, Nanak and Govind, of the Khatri race, with their succeeding gurus, obtained a few converts to their religious views among the Jat peasants of Lahore and the southern banks of the Sutlej.

Towards the close of the 18th century, they grew to be a great dominant nation, with an influence which extended from the Kara-korum mountains to the plains of Sind, and from Peshawur to Delhi. Their dominions were included between lat. 28° and 36° N., and long. 71° and 77° E. This tract consists of broad plains, slightly above the sea-level, or mountain ranges 2 or 3 miles high. In the former Sikh territory, all were not of the Sikh religion. The people and dependent rulers of Ladakh profess Lamaic Buddhism, but the Tibetans of Iskardo, the Dardu of Gilgit and Kukka and Bimba of the rugged mountains, are Muhammadans of the Shiah sect. The people of Kashmir, Kishtwar, Bhimbur, Pukli, and of the hills

south and west to the Salt Range and the Indus, are mostly Sunni Muhammadans, as are likewise the tribes of Peshawur, and of the valley of the Indus southwards, also the inhabitants of Multan, and of the plains northward as far as Pind-dadun-khan, Chuaecot, and Depalpur. The people of the Himalaya eastward of Kishtwar and Bhimbur are Hindus of the Brahmanical faith, with some Buddhist colonies to the north, and some Muhammadan families to the south-west. The Jat of the Manjha and of the Malwa districts, in the Panjab territory, are mostly Sikh; but perhaps not one-third of the whole population between the Jhelum and Jumna has, as yet, embraced the tenets of Nanak and Govind, the other two-thirds being still equally divided between Muhammadanism and Brahmanism. Most of the modern Sikh in no way separate from their tribes, and are known as Jat or Khatri or Brahman Sikh, one member of a family being frequently a Singh, while others are not. The written character in use with them is called Gurumukhi. It is the Devanagari in form, but with different powers to the letters. The Sikh religion forbids them to smoke tobacco. They have, however, no objection to other narcotics; opium and bhang and snuff-taking are not so common. Smoking was first prohibited by the tenth guru, Govind Singh, whose chief objection to it appears to have been that the habit was promotive of idleness, as people would sit smoking and do nothing. The Sikh owes his excellence as a soldier to his own hardihood of character, to that spirit of adaptation which distinguishes every new people, and to that feeling of a common interest and destiny implanted in him by his great teachers. The early force of the Sikhs was composed of horsemen, but they seem intuitively to have adopted the new and formidable matchlock of recent times, instead of their ancestral bow and the spear common to every nation. Mr. Foster noticed this peculiarity in 1783, and the advantage it gave in desultory warfare. In 1805, Sir John Malcolm did not think the Sikh was better mounted than the Mahratta; but in 1810, Sir David Ochterlony considered that, in the confidence of untried strength, his great native courage would show him more formidable than a follower of Sindia or Holkar, and readily lead him to face a battery of well-served guns. The peculiar arms of the contending nations of the 18th century passed into a saying, and the phrase, the Mahratta spear, the Afghan sword, the Sikh matchlock, and the English cannon, became a proverb.

The sect increased rapidly. Nanak, a Hindu of the Kshatriya caste, was born in A.D. 1469 at Hulwandi or Talwandi, near Lahore. He was the son of a grain merchant. From his infancy he was given to religious meditation. In riper manhood he wandered into various countries, and returned to his home with his mind matured with reflection and travel, to preach the unity of God and charity to men. The new creed spread rapidly, but soon provoked the persecution of the Muhammadans. The cruelty with which the Sikhs were treated turned them, under Govind, their tenth and last guru or teacher, from a band of religious devotees into a chosen religious and military commonwealth or khalsa, animated with undying hatred to Muhammadans. Govind waged an unequal war with the emperor of Delhi. Frequently defeated

and broken up, persecuted with inhuman cruelty, the Sikh religionists were driven to hide themselves in the valleys and caves of the hills from the fury of their enemies. Openly to profess their religion became a capital crime. The sect would soon have been exterminated, had not the distractions of the empire which followed the death of Aurangzeb given them a breathing time from persecution. Gradually the Sikhs emerged from their hiding-places, and, gathering in small parties, established themselves in petty isolated forts. Issuing from these, always well mounted, they scoured the country, burning and plundering, and giving infinite annoyance to the weak Muhammadan governors of Lahore and Sirhind.

After the return of Ahmad Shah, Abdali, to Kabul, from his fifth invasion of India, in which he had broken the Mahratta power in the decisive battle of Panipat, the Sikhs found themselves strong enough to possess themselves of the country round Lahore. But this drew down the vengeance of Ahmad Shah, who in 1762 returned to India, disastrously defeated them, and destroyed and polluted their sacred temple at Amritsar. From this defeat the Sikhs soon recovered. In the following year they defeated the Afghan governor of Sirhind, and spread themselves over the plains south and east of the Sutlej, as far as the Jumna. The eighth invasion of Ahmad Shah, which took place in 1767, ended in leaving the Sikhs masters of the country between the Jumna and Rawal Pindi. Within three years their authority was extended over the Jumna and the Rajputs of the lower hills. The spread of the dominion of the Sikhs south of the Sutlej received a severe check from the Mahrattas, who, recovering from their disastrous overthrow at Panipat, again overran Northern India. In 1788, Sindia was in possession of Delhi, and by 1802 the Mahrattas had established their supremacy as far as the Sutlej, and exacted from the Sikh States to the south of that river a tribute of three lakhs of rupees. But the Mahratta power in the north was broken by Lord Lake in 1803; the chiefs of Khythul and Jheend tendered their allegiance to Lord Lake, and rendered occasional service, and all the chiefs of Sirhind became virtually dependents of the British Government. It was the policy of the day, however, to maintain a strict neutrality in regard to the affairs of the chiefs north of the Jumna; and beyond establishing the Sikh chiefs in the territories which they then held, and rewarding those who had done good service, the British Government did not interfere in their affairs till 1809, when the Sikh chiefs threw themselves on its protection from the encroachments of Ranjit Singh. One of the sirdars who earliest raised himself to power and influence, was Maha Singh, of the Sukurchakea Misl, one of the weakest and latest formed of the twelve clans. To him, on 2d November 1780, was born a son, Ranjit Singh, by his wife, a daughter of the raja of Jheend. Ranjit Singh early distinguished himself there.

During the invasion of Shah Zaman in 1798, Ranjit Singh rendered service to the Afghan monarch by recovering for him several pieces of artillery which had been lost in the Jhelum, and he had the address to procure for himself the appointment of Governor of Lahore, where he established himself; and in concert with Futteh Singh, Aloowalia, he soon extended his supremacy

over the neighbouring sirdars, and meditated the extension of his authority beyond the Sutlej. In 1803 he made proposals to Lord Lake for the transfer to the British Government of the territory belonging to the Sikhs south of the river Sutlej, on the condition of mutual defence against the respective enemies of himself and the British nation. The offer was declined. In 1805, Ranjit Singh was recalled from a campaign against the Muhammadans between the Chenab and the Indus, by the sudden appearance of Holkar in the Panjab, closely pursued by Lord Lake. With the death of Ranjit Singh, A.D. 1839, the career of the Sikhs, as a nation, may be said to have closed. Internal anarchy led to aggressions on British territory, from which war twice resulted, and finally the whole of the Sikh dominions in the Panjab were annexed to British India.

The military ascendancy of the Khalsa was, for a time at least, put down by Lord Hardinge. Moodkee was fought on 18th December 1845; Ferozeshah, on the 21st and 22d; Aliwal, on 28th January 1846; and Sobraon, on 10th February. The first Sikh soldier is believed to have crossed the Sutlej about the 10th of December 1845; and the last was driven back over the river, choked with the dead and the dying, about 12 P.M. on the date last named. The campaign may be said to have occupied about two months; and it was just before or after the battle of Sobraon that Lord Hardinge gave the reply to the Lahore Vakeel who came to propose terms of peace, that 'he would answer him under the walls of Lahore.'

In 1881 the number of this religion was 1,853,426. The Grant'h is the name of the sacred book of the Sikh religionists. The Grant'h is written in the Gurumukhi character, a modified species of the Nagari. It is placed in the holy temple of Amritsar. The initiatory rite for admitting a person into the Sikh religion is termed the Pahul. The novice must have attained the age of discrimination; he stands with his hands joined in the form of supplication, and repeats after the priest the articles of his faith. Some sugar and water are stirred in a basin with a double-edged dagger, and the water is sprinkled on his face and person. He drinks the remainder, and exclaims Wah, Guru! At least five persons have to be present, one of them a priest. Women were sometimes thus initiated. The Sikh sect is rapidly diminishing. The forms of prayer and praise are simple. Portions of the Adi Grant'h are read or sung; the priest says, 'Meditate upon the Book,' and the people reply, 'Wah, Guru! Wah, Guru ka Fatah!' Guru Govind not only introduced the worship of Durga and the sword, but, it is said, offered sacrifices at her festivals. In the Dasama Padshah-ki-Grant'h, Durga is represented as the tutelary goddess of war.

The Sikh or Nanak Shahi, in their religious doctrines, have several sects, amongst whom may be mentioned—

1st. Oodasee, founded by Sree-Chund, a son of Nanak. The Oodasee were rejected by Ummer Das as not being genuine Sikhs.

2d. Behdee, founded by Lukshee Das, another son of Nanak.

3d. Teehun, founded by Guru Unggud.

4th. Bhulleh, founded by Guru Ummer Das.

5th. Sodhee, founded by Guru Ram Das.

The Behdee, Teehun, Bhulleh, and Sodhee are

rather Sikhs of the subdivisions of Kshatri, so called (*i.e.* of the tribes of certain gurus), than distinct sects.

6th. Ram Rayee, seceders who adhered to Ram Raee, when Tegh Bahadur became guru. They have a considerable establishment in the Lower Himalayas, near Hardwar.

7th. Bunda-Punt'hee, *i.e.* of the sect of Bunda, who succeeded Govind as a temporal leader.

8th. Mussundee. Mussund is simply the name of a subdivision of Kahatri; but it is also specially applied to the followers of those who resisted Govind, some say as adherents of Ram Raee, and others as instigators of the guru's son to opposition. The more common story, however, is that the Mussund were the hereditary stewards of the household of the several gurus, and that they become proud and dissipated, but nevertheless arrogated sanctity to themselves, and personally ill-used many Sikhs for not deferring to them, whereupon Govind, regarding them as irreclaimable, expelled them all except two or three.

9th. Rungret'ha, converts of the sweeper, and some other inferior castes, are so called.

10th. Ramdasee, *i.e.* Rao or Raee Dasee, Sikhs of the class of Chamars or leather-dressers, and who trace to the Rao Das or Raee Das, whose writings are inserted in the Grant'h.

11th. Mazahbee, converts from Muhammadanism are so called.

12th. Akali, worshippers of Akal (god), the most eminent of the orders of purists or ascetics.

13th. Nihung, the naked, or pure.

14th. Nirmulleh, the sinless. One who has acquired this title usually administers the Pahul to others; also written Nirmala.

15th. Gheianee, the wise or perfect. A term sometimes applied to Sikhs, who are at once learned and pious.

16th. Soothra Shahee, the true or pure; said to have been founded by one Sootcha, a Brahman.

17th. Sutcheedaree, likewise the true or pure; the founder not ascertained. Suthreh Shahi priests lead a vagabond life, begging and singing songs of a moral or mystic tendency, but are not unfrequently gamblers, drunkards, and thieves. They look up to Tegh Bahadur, father of Guru Govind, as their founder.

18th. Bhaee, literally brother. The ordinary title of all Sikhs who have acquired a name for holiness; and it is scarcely the distinctive title of a sect, or even of an order.

The *Udasi*, as their name denotes, profess indifference to worldly vicissitudes. They are purely religious characters, devoting themselves to prayer and meditation, and are usually collected in convents or colleges called *Sangat*. They are ascetics, though they do not solicit alms, are generally well dressed, and celibacy does not seem imperative. Many of them are well read in Sanskrit, and are able expounders of the Vedanta philosophy, on which the tenets of Nanak are founded; and in the Gangetic provinces their office consists chiefly in reading and expounding the writings of Nanak and Govind Singh, as collected in the *Adi Grant'h* and *Das Padshah-ki-Grant'h*.

Ganj Bakshi, a small sect of no note.

Ram Raya, a small political sect, claiming for their founder Ram Raya, who flourished in A.D. 1660.

Govind Sinhi are the most important of the Sikh community, and comprehend the political association of the Sikh nation generally.

The *Nirmala*, who observe celibacy, and go nearly naked, in other respects resemble *Udasi* Sikhs.

Naga go without clothes, but otherwise resemble the *Nirmala*, and, unlike the *Saiva* and *Vaishnava* *Nagas*, do not wear arms.—*Cunningham's Hist. of the Sikhs*.

SIKHA, SANSK., is the tuft of hair which Hindus leave when shaving their heads, called in Tamil the *Kudumi*. A considerable number of European missionaries regard the wearing of this tuft as a badge of Hinduism, and require the natives employed in the missions to cut off their *kudumi* as a *sine qua non* to their retention of mission employment. The idol-worshipping Hindus believe that the top of the head, including the anterior and posterior fontanels, is the most sacred part of the body. They say that the fontanel is the residence of the deity, and call it the 'top eye.' They think also that it is the fountain of the generating fluid of man which supplies the lower members of the body when required; they consider that such holy and useful parts of the body must not without good reason be left uncovered, and hence they say is the necessity of protecting those spots by a tuft. A sect of *Sanyasi*, however, walk about with bald heads pretending that they have entirely renounced the world, passed the lower steps of ritualism in the ladder to ascend to heaven, and are living in close communion with God, constantly looking at him with their top eye. This sect do away with their sacred thread also, evidently showing that they regard the *kudumi* in the same light as the other ceremonies belonging to the lower step of the heavenly ladder. When a Hindu wife is in the family-way, the husband allows his hair to grow without being shaved. After the confinement, if the child be a boy, he, on the 16th day, rises up early in the morning, performs ablutions, comes home with a wet head, enters the room where the child is laid, takes a few drops of water from his wet *kudumi*, pours them into the child's mouth, and then for the first time sees and handles the child. After this ceremony he shaves his hair as usual. When the Hindu parents think it necessary to shave the head of the child, they consult an astrologer, who fixes an auspicious day, when the barber is invited to do his duty. A small image of *Pillayar*, the son of *Siva*, is made, before which, on a plantain leaf, a thali or platter filled with paddy, a broken coconut, and some plantain fruit are laid, and incense offered to the image. The barber puts his razor before the image and worships it, and then begins the sacred rite of shaving, by putting his razor around the top eye, and leaving a circular portion of hair over the sacred spot unshaven. The Brahman father holds the hair of the child at the crown of the head, and puts the razor around it, while his guru repeats certain mantra, and then shaves the rest of the hair himself, or asks somebody else to do it. It is the custom with certain castes to wet the head with the juice of the coconut kernel, beginning with the circular portion of hair to be left as *kudumi*. A portion of the juice thus used is then poured at the foot of a palmyra tree as an offering to *Parvati*, the *sakti* or consort of *Siva*. The Hindu believes that the

way of extracting toddy from the palmyra was taught by Parvati, and to this day it is the custom of the palmyra-climbers to make special offerings to her when they begin their career. The hair shaven from the head of a little child, especially from the head of the first-born, must not be thoughtlessly thrown away, inasmuch as it is derived from the father of the child, who allowed his hair to grow unshaven, with a special vow for the safety of the child, from the time of its conception till its birth. Some old men say that it was formerly the custom to burn the hair with certain ceremonies, as the Nazarites of the Hebrews did theirs. The shaven hair is now in general carefully enclosed in a silver case, and tied around the waist of the child as an amulet to ward off sickness. Some people tie it in a cloth and carefully preserve it in pots. The circular portion left on the head must be carefully kept and oiled, while the rest of the hair shaven must thus be respectfully treated, otherwise the prosperity and welfare of the child is endangered. If the parents lose their children successively one after another, they keep the kudumi at the back of the child's head on the posterior fontanel, and if the child survive the period in which the one previous to it died, the parents go about asking alms, make a feast to the pandarans, take off the 'tail,' as it is called, and then remove the kudumi to the front of the head.

When a boy has become old enough to go to school, or has so far advanced in study as to begin to write on the cadjan or palm leaf, a feast is made by the parents, and in one corner of the house, previously daubed with cow-dung, a small image of Pillayar is made, before which is placed an offering of plain fruit and coconuts. The schoolmaster writes in a cadjan or palm-leaf book, respectfully places it before the image, and worships it. The boy is then called before the image, and while he is standing there with great veneration and awe, the schoolmaster touches him by his kudumi, divides it into three parts, and, after having plaited them together, puts over the kudumi at the crown of the head some raw rice and some sacred amgu grass, and worships it. Some add to these things, a little raw paddy, sacred ashes, and flowers, and tie them in the plaited kudumi. The schoolmaster then respectfully takes the cadjan book, and delivers it into the hands of the scholar, while the scholar respectfully puts the coconut and the other offerings into the hands of the schoolmaster, and while doing so the scholar is taught to repeat some congratulatory words, thus: 'Book and learning to me. Coconut and money to the teacher.' It was formerly the custom with several lads to wear their hair long, tied up in a knot at the back of the head, nearly after the manner in which women usually wear their hair. This, however, was not usual before they came of age, unless under peculiar vows. The devotees of Parvati believe that their goddess is extremely pleased with this fashion, and in honour of her still wear their hair in this manner. The Maravar caste in South Travancore wear the kudumi until they are about 12 years of age, and then allow their hair to grow long, and tie it up in a knot at the back of the head. Until very recently, each caste differed from another in the way of wearing the kudumi. A Shanar never dared to imitate a Brahman, nor a Pariah a Sudra.

Although the sacred spot of the head which ought to be adorned with the kudumi does not differ, yet the manner, quantity, and position of the kudumi differ in each caste. The chief use of the kudumi, however, is in the performance of a funeral ceremony urgently necessary for the salvation of a married man. A Tamil poet, in describing the lamentations of a king who performed penance for obtaining the gift of a son, says that a father can enter Siva's paradise in no other way than by his son performing the funeral ceremony. The Hindus believe that a man, so soon as he is married, commits a serious sin that renders him liable to hell. When he dies he has no alternative but to suffer its torments, unless prevented by the ceremony which his son performs. In order to quench the fire of hell, the son must uncover the sacred portion of his head by shaving off the kudumi, must put upon it a new pot full of water, that it may therefrom absorb the virtue of quenching the hell fire, must walk with it three times around the deceased parent, each time cutting a new hole in the pot that the water may spout out as he walks along, and on the third time must break the pot at the head of the bed of the deceased parent, and pour a few drops of this sacred water into the mouth of the corpse in the same manner as the parent poured a drop of water into the mouth of the son while an infant. He also puts a small coin into the mouth, that the deceased may reward with it the porter of the next world. The Romans also did so, that the deceased might pay Charon, the ferryman, for a passage across the Styx. The cutting off of the kudumi on this funeral occasion is not regarded as a token of sorrow, but is considered as an essential requisite for performing the funeral ceremony which is absolutely necessary for the eternal welfare of the deceased parent. No one but the heir of the deceased cuts off the kudumi, and that at no other time but on the occasion of the parent's death. A father may lose a dozen children, but he never thinks of shaving off his kudumi as a sign of sorrow. On the 16th day it is generally the custom to perform another ceremony in order to send up the spirit of the deceased to heaven, for, until the ceremony is performed, the spirit of the deceased is supposed to hover about the grave. After this the son allows his hair to grow for one year as a token of sorrow; at the expiration of which he makes a feast to Brahmins and others, shaves his hair, and wears the kudumi. No one of the Hindu races styled the twice-born cut off the kudumi on the occasion of performing the ceremony for the deceased parent, because being regenerated by the sacred thread imparts full power to his prayers and other ceremonial that are absolutely necessary for the salvation of the deceased parent. The Chinese, who wear their hair very much like the kudumi, believe that unless certain ceremonies are performed with a knot in the kudumi, the deceased cannot go to heaven. From what certain Tamil poets have sung, it is evident that they have regarded the kudumi in the same light as the sacred thread of the Brahmins. One says, 'What is caste but the sacred thread and the kudumi?' Another says, 'The sacred thread, kudumi, and other ceremonies of the brilliant sacred writings, were they born with you?' In a letter sent by a learned caste-Hindu, he says, 'Wearing the kudumi is as import-

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ant to us as the sacred thread is to a Brahman.' Not to wear the kudumi renders a man guilty, and liable to hell, Naraga-prerbathee. The goldsmiths say that their god, Visvakarma, sprang from the third eye of Siva with sacred thread and kudumi, and that his devotees wear kudumi in order to resemble him, just as the Saiva devotees wear the Chadei in order to resemble Siva.

SIKHARA or Sikra, also Vimana, the spire of a Hindu temple. They are curvilinear; a pyramidal spire-like roof is common to all Hindu and Jaina temples of the 10th to the 12th century.

SIKKA. HIND. A die for coining, a stamp, a mark, a stamped coin; the designation of the silver currency of the emperors of Delhi and the East India Company; a name of a rupee now uncurrent. The British Indian Sikka rupee remained at 192 grains, but this coinage was discontinued in consequence of Act xvii. of 1835, and since that date the Company's, afterwards the Queen's, rupee of 180 grains has been the only rupee coined at any of the Indian Government mints. The main purport of Act vii. of 1833 was to fix the weight of the Farrakhabad rupee at 180 grains. When the Government of India decided on 180 grains as the tola, they in the same Act declared that this tola should be the unit of a general system of weights in all Government transactions.

SIKKIM, a native state in the Eastern Himalaya mountains, bounded on the N. and N.E. by Tibet, on the S.E. by Bhutan, on the S. by Darjiling, and on the W. by Nepal. It lies between lat. 27° 9' and 27° 58' N., and long. 88° 4' and 89° E.; area about 1550 square miles. On the breaking out of the Nepal war in 1814, Major Latter occupied the Morang, and formed an alliance with the raja of Sikkim, who was rewarded with territory which had been ceded to the British by Nepal. In February 1835, the raja made a formal cession of Darjiling to the British, and received in lieu an annual pension of £300. In 1849, the raja foolishly seized Dr. Campbell, the superintendent of Darjiling, and Dr. Hooker, whilst travelling in Sikkim, and detained them for six weeks. The pension was stopped, and a piece of territory, including the lower course of the Tista and the Sikkim terai, was annexed as a punishment. The capital is Tumlung, where the raja resides during the winter and spring, usually going to his estates at Chumbi in Tibet in summer to avoid the heavy rains of Sikkim. The Tibetan name for Sikkim is Dingjing, or Demojong, or Dee-jon, and for the people Deunjong mars; the Nepalese call it See-i; the Gurkha name for the people is Lepcha, but Mr. Markham says they call themselves Rong.

Sikkim occupies an intermediate position between Nepal and Bhutan, and unites the floras of Nepal, Bhutan, East Tibet, and the Khassya mountains, being hence, in a geographico-botanical point of view, one of the most important provinces in India, if not in all Asia. In the Himalaya, the truly temperate vegetation supersedes the sub-tropical above 4000 to 6000 feet, and the elevation at which this change takes place corresponds roughly with that at which the winter is marked by an annual fall of snow. This phenomenon varies extremely with the latitude, humidity, and many local circumstances. In Ceylon and the Madras Peninsula, whose mountains

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attain to 9000 feet, and where considerable tracts are elevated above 6000 to 8000 feet, snow has never been known to fall. On the Khassya mountains, which attain to 7000 feet, and where a great extent of surface is above 5000, snow seems to be unknown. In Sikkim snow annually falls at about 6000 feet elevation, in Nepal at 5000, in Kamaon and Garhwal at 4000, and in the extreme West Himalaya lower still. The little fort of Dumsong, 5000 feet above the sea, is situated on a bluff jutting down into the valley of the Tista between Sikkim and Bhutan. The view from this place is magnificent; the snows of the Chola Nital and Yank-la passes are all quite close. On three sides are the different snowy ranges of Bhutan, Sikkim, and Nepal. Within a space of 16 miles are seen the four countries of Tibet, Sikkim, Bhutan, and British Sikkim; Darjiling is plainly visible, and below is the beautiful and fertile valley of Rhinok in Sikkim; for many miles can be seen the road from the Tibet passes to the Ranjit river on the Darjiling frontier, the route followed by the Tibetan traders who annually visit Darjiling. Between Darjiling and Tumlung, the mountains are generally lower than those of Darjiling itself. North of Tumlung, the passes into Tibet are of great height, and there may be noticed the passes Yak-la and Guntinla (14,000 feet), Chola (15,000), and Jelep-la (13,000) which cross the lofty spur of the Himalayas, separating the Chumbi and Tista valleys. Then comes the Tankra-la pass, 16,083 feet high, the most snowy pass in Sikkim. Sikkim is drained by the river Tista and its affluents. The Am-machu rises near Parijong, at the foot of the Chomalhari peak (23,929 feet), and flows through the Chumbi valley, which is a strip of Tibetan territory separating Sikkim from Bhutan. In this lower part of its course, the Am-machu passes into the British district of Jalpaiguri, under the name of the Torsha.

Near Mintugong are some copper mines worked by Nepalese. At the base of the Sikkim Himalaya, under the hill station of Darjiling, the great mass of the lofty hills is composed of schistose rocks of various characters considerably disturbed and contorted. Near the base of the hills, and faulted against these rocks at high angles, there is a small extent of sandstone and black shales, which contain vertebrata, peccopteris, etc., similar to those occurring in the great coal-fields of Bengal. This upper group contains many large stems, in all observed cases prostrate, and in most cases giving evidence of great wear and long exposure previously to being embedded; and in some of the finer and more earthy deposits an abundance of leaves occur, of the same general character as those of Burma and Tenasserim.

From the level of the sea to an elevation of 12,000 feet, Sikkim is covered with dense forest of tall umbrageous trees. At 10,000 feet, on the summit of Tangle, yew appears. Being opposite to the Gangetic valley, the rainy winds sweep almost without interruption up to the base of Kanchinjanga (28,178 feet), the most enormous mass of snow in the world. The snow-level is here 16,000 feet. Oak trees, maple and other mountain trees, throw out great knots in the places to which the Balanophora attach themselves. These knots are hollowed out into

wooden cups by the Lepcha of Tibet, and some, supposed to be antidotes to poison, are of a peculiar pale-coloured wood, and cost a great sum, but common cups cost only 4d. to 6d. They are all imported into Tibet from the Himalaya. The bamboo grows to enormous size, often attaining a diameter of 7 to 9 inches. For the Himalayan cane-bridges, cane is found of the diameter of $1\frac{1}{2}$ to 2 inches, and more than 80 yards long. Yoksun, in Sikkim, occupies a very warm, sheltered flat, and about it many tropical genera occur, such as tall bamboos, and various Araliaceæ, amongst which is *A. papyrifera*. In Sikkim and Bhutan there are twelve Coniferae. Sikkim is perhaps the most productive in fleshy fungi of any in the world, and Eastern Nepal and Khasia yield also an abundant harvest. The dimensions of many are truly gigantic, and many species afford abundant food to the natives. Amongst those of East Nepal is a *Lentinus*, which has the curious property of staining everything which touches it of a deep rhubarb yellow. The *Polypori* are often identical with those of Java, Ceylon, and the Philippine Isles, and the curious *Trichosoma paradoxum* of Java and Ceylon occurs abundantly on the decayed trunks of laurels. The curious genus *Mitremyces* also is scattered here and there, under the form which occurs in Java. *Hymenomyces* are abundant; the young shoots and roots of *Dimorphanthus edulis* are used as food in China and Japan. The genus *Boletus* through the whole district assumes magnificent forms.

The country of Sikkim and Darjiling is the land of the Lepcha, a Bhot race who are hemmed in between the Newar and other Nepal tribes and the L'hopa of Bhutan on the east, the Lepcha area being barely 60 miles in breadth. His physiognomy is markedly Mongolian, stature short, from 4 feet 5 inches to 5 feet; face broad and flat, nose depressed, eye oblique, chin beardless, skin sallow and olive, with a little moustache on the lips; broad chest and strong-armed, but small-boned, with small wrists, hands, and feet. The Lepcha is honest, timid, and peaceful, with mild and frank features; but they are a dirty, good-natured people, resembling in character the Mongol beyond the Chinese wall. The women dress in silk skirt and petticoat, with a sleeveless woollen cloak. The Lepcha man carries a long, heavy, and straight knife, serving for all purposes to which a knife can be applied. They drink the *Murwa*, the fermented juice of the *Eleusine coracana*, which gives a drink, acidulous, refreshing, and slightly intoxicating, and not unlike hock or sauterne in its flavour. Their songs and the music of their bamboo flute is monotonous. They marry before maturity, the brides being purchased by money or service. In the Darjiling district, in addition to the Europeans, Hindus, and Muhammadans from the plains, the population consists of Nepalese; of the Bhoteah from Bhutan, Tibet, and Sikkim; of the Lepcha and Mechi, who are considered the prior occupants of Sikkim. The Rajbansi of Sikkim are the Koch or Kooch race, of the same descent as the raja of Koch-Bahar. In the plains of Sikkim, the Rajbansi and Bengali are in equal numbers. The Mechi inhabit that portion of the terai which lies under the hills. They are a migratory race, who have no caste distinctions, and live by cultivating the virgin soil.

A gradual increase of population has taken place under British rule, from a few scattered tribes in 1853. They consist of Brahmans and Rajputs, few in number, with a Sanskrit tongue, and an Indo-European physiognomy, confined to Nepal; the Rhu, Magar, and Gurong, a mixture of Hindus and Mongolians, with features of a type belonging to the latter, comparatively free from caste prejudices, and speaking the Parbatta dialect. They are short and squat highlanders, and make good soldiers. The Bhoteah, Lepcha, and Murmi are Buddhist, and speak the Tibetan language. They are strong and active, and incline strongly to the Mongolian race. The Limbo, Sunwar, and Chepang possess a small Mongolian type, strongest in the Limbo, and their language is referable to either the Tibetan or Indian standard. The Mechi, Dhimal, and Garo are lowland tribes with a Mongolian physiognomy, but are neither Hindus, Buddhists, nor Muhammadans. The Tharoo and Dhumwar are Buddhists or Muhammadans with fair and barely Mongolian features. The Bahir, Kebent, Amatti, Maralia, Dhanook, and Dom are not Mongolian, but dark races speaking Hindi or Bengali. The Koch or Rajbansi are a race of dark Hindus inhabiting the terai of Nepal and Sikkim, but who have spread into British territory. The term Sikkim Bhoteah is applied to the more recent immigrants from Tibet, who have settled in Sikkim, and are an industrious, well-conducted people. The Bhoteah, again, of Bhutan, to the eastward, bear the worst reputation of any of the numerous people who flock to Darjiling. These should not be confounded with any other Bhotean tribes of Tibet, Sikkim, or Nepal.

The mountain slopes are so steep, that the little shelves are the only sites for habitations between the very rare flats on the river banks and the mountain ridges, above 6000 feet, beyond which elevation cultivation is rarely if ever carried by the natives of Sikkim. Firing the forest is so easy in the drier months of the year, that a good deal of cultivation is met with on the spurs, at and below 5000 feet, the level most affected by the Lepcha, Limbo, and Sikkim Bhoteah.—*Latham's Ethnology; Gleanings of Science; Dr. A. Campbell in Royal Geog. Soc. Jour.; Hooker's Him. Jour.* i. p. 358; *Hogg's Veg. Kingd.; Dr. A. Campbell in B. As. Soc. Jour.* No. xxix. p. 508; *Imp. Gaz.*

SIL. HIND. A slab, a stone on which spices, etc., are ground, resembling an oilman's grinding stone and muller, but the surfaces are rough. *Sila* - sasanams, or inscriptions on stones, are numerous in the Canarese country.

SILADITYA. Two rulers with this title ruled at Kanouj (Kanya-Kubja), a city on the banks of the Ganges. The first Siladitya, a Buddhist, succeeded Vikramaditya. The second ruled from the Himalaya to the Nerbadda. He, too, was a Buddhist, and was on the throne when Hiwen Thsang, the Chinese missionary, was there. In A.D. 634 he held a general council, at which twenty-one tributary sovereigns attended, together with the most learned Buddhist monks and Brahmans of their kingdoms. They discussed the subject of the Sankhya and Vaisheshika philosophies; the rites of the Buddhist northern and southern schools were discussed, and an image of Buddha, one of the sun-god, and an idol of Siva, were erected. Every five years he distributed his treasures.—*Imp. Gaz.; Fergusson*, pp. 23, 257.

SILAH. HIND., PERS. Arms, weapons, mail. Silahdar (lit. armour-wearer), a mounted soldier providing his own horse and armour.

SILAH-SILAH, section of the Feili Lur tribe of Luristan, number about 10,000 families. They reside in summer about Alishar and Khawah, and in winter at Jaidar, Saimara, and Pusht-i-Koh. It is not safe to travel amongst them, even under the protection of their chiefs.

SILCHAR, chief town of the district of Cachar, Assam, situated in lat. 24° 49' 40" N., and long. 92° 50' 48" E., on the south bank of the Barak river.—*Imp. Gaz.*

SILENACEÆ, the Dianthus tribe of plants, comprising 12 genera; 32 species have been found in Southern and Eastern Asia, all with unimportant properties.

Dianthus arbuscula, *Lindl.*, China.

D. Chinensis, *Linn.*, China.

Cucubalus bacciferus, *Linn.*, Europe, Himalaya.

Silene inflata, *Sm.*, Europe, Himalaya, Kamaon, Nepal.

S. viscosa, *Pers.*, Europe, Levant, Kanawar.

A species of *Silene* grows in China, called there Wang-puh-liu-hing. Its dark-reddish, roundish seeds, resembling turnip seeds, are believed to be vulnerary, styptic, diuretic, galactagogue, discutient, and solvent, and are taken by soldiers after injuries as a remedy.

SILK.

Seole,	ANGLO-SAXON.	Seta,	IT.
Kuz, Khuz, Harir, ARAB.		Sericum,	LAT.
See, Szu,	CHIN.	Sutra,	MALAY.
Sir,	COREAN.	Sirghe,	MANCHU.
Silke,	DAN., SW.	Sirkek,	MONGOL.
Zijde,	DUT.	Abresham,	PERS.
Soie, Fabrique de soie, FR.		Sheolk, Chelk,	RUS.
Seiden,	GER.	Seda,	SP., PORT.
Seiden fabrique,		Siden,	SW.
Serikon,	GR.	Pattu,	TAM.
Reshm,	HIND.	Spek, Harir,	TURK.

Baron von Mueller has mentioned that in 1870, the value of the produce of cocoons of the silk-worm amounted in Europe to £16,588,000; in Asia, £28,112,000; in Africa, £44,000; in the South Sea Islands, £24,000; and in America, £20,000: total, £44,788,000. This amount is the representative of many forms of industry, giving employment to numbers of men, women, and children. In the Rajashaline district of Bengal, in 1875, the yield of raw silk was estimated at £400,000, the plantations extending over about 150 square miles, employing 12,000 people. In that district alone 250,000 people derived their support from the trade and other branches of the silk industries.

The arts of rearing silk-worms, of winding off the threads spun by them, and of manufacturing those threads into clothing, seem to have been first practised in China. Many of the names applied to this substance by the several nations of the earth being from one root, proves that they, at least, obtained the substance and its name from one region; and the name *Seres*, by which China was known to the western nations, was either applied to it from silk being a product of that country, or the country gave its name to the substance known as silk. The Chinese terms *see* and *szu*, silk, are found in the Korean language or dialect in the form of *sir*; in Mongol, *sirkek*; in Manchu, *sirghe*. Klaproth supposes this word to have given rise to the Greek *ser*, the silk-worm, and *seres*, the people furnishing silk, and hence *sericum*, *serikon*, *silk*. The eggs were brought to Europe

by monks. The country from which they brought their precious charge is called by Theophaues simply that of the *Seres*, but by Procopius *Serinda*. But it is possible that the term was meant to express a compound like Indo-China, some region intermediate between *Serica* and *India*, and if so not improbably *Khoten*. 'It would be curious,' says Klaproth, 'to know at what period the word silk was introduced into the English language. It appears to be the same as Russian *chelk*, which is believed to be derived from the Mongol for silk; this is so much the more likely as Russia was for a long period under the Mongol yoke.' Silk, then, seems to have given its name to the people who first fabricated it, and sent it to the west; and the *Seres* of the Greeks and Romans were seemingly the Chinese, whose empire was formerly separated by the *Oxus* from that of Persia.

In China, the silk industry is said to have been in its most flourishing state for a period of 4000 years previous to the introduction of cotton from India, at the beginning of the Yuan dynasty, A.D. 1260. The Shi-king contains this distich, 'The legitimate wife of Hwang-ti, named Si-ling Shi, began to rear silk-worms.' M. P. Mailla, in his *Histoire generale de la Chine*, also mentions that, n.c. 2602, Si-ling-chi, wife of the emperor of China, Hwang-ti, was enjoined by him to utilize the thread of the silk-worm, in which she succeeded. This lady did not disdain to share in the labours attending the care of the insect, as well as in those of the loom, the invention of which seems to be attributed to her, and raised her to the position of a tutelary genius, with special altars of her own. But whatever the precise date of the discovery, there can be no question of the very high antiquity of the knowledge in China of the worm and its product. A series of imperial edicts, and a voluminous literature of practical treatises, testify to the importance of the industry, and the care that was taken to foster an art which was considered, according to M. de Rosny, best fitted to promote the morality of the people and extinguish pauperism in the empire. The original cradle of sericulture in China included the country of Yen, lying south-west of the present province of Shan-tung; the country of Ts'ing, answering to the north-west region of the same province; the country of Siu, covering the south of Shan-tung and the northern portion of Kiang-si; and lastly the country of King, which now constitutes the province of Hukong. The industry now extends to the whole of China, even into Manchuria. According to Captain Bowers, of Colonel Sladen's expedition, large quantities used to be raised in Yunnan and Sze-chuen, but the industry suffered from the Panthay revolt. In China, besides exporting millions of pounds annually by sea, the yield is sufficient to clothe in silk all but the lowest classes of a population estimated to number 400,000,000. Shanghai and Canton are the only ports from which any considerable quantity of silk is exported to foreign countries. From Ningpo only 21 kilos. in 1879. But in 1878, in the Ningpo districts, the produce was 2,935,328 kilos., and in 1879 it was 3,334,751 kilos. The best silk is found in the provinces of Sze-chuen, Hu-peh, Che-kiang, and Kiang-nan; but every province south of 45° N. produces it of different degrees of fineness. Probably the kind called *tsa-tle*, brought

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from Hu-peh, is the finest silk found in the world.

Between the 17 years 1858-59 and 1874-75, the exports from all China ranged between 31,618 and 83,644 bales.

	1875.	1876.	1877.	1878.	1879.
From Chefoo, pikuls,	34	1,620	124	1,115	1,034
Shanghai, raw bales,	67,430	68,898	48,108	57,425	64,045
" yellow "	1,570	3,977	3,304	4,116	6,711
" wild raw "	210	1,274	574	833	466
" cocoons "	1,755	1,219	1,229	738	999
Ningpo, kilogrammes	...	...	...	...	21
Canton--					
Raw & thrown, pikuls,	18,419	17,036	14,619	12,689	16,362
Wild raw, "	5,515	1,748	2,364	3,200	3,531
Refuse, "	4,104	4,554	4,244	5,891	7,660
Cocoons, "	978	1,760	758	1,145	2,001
Piece goods, "	6,042	4,789	5,544	5,726	5,872
Ribbons & sashes, "	1,523	1,249	1,167	1,226	1,863

Fabrics.—In China the manufactures consist of pongee, handkerchiefs, crape shawls, scarfs, sarsenet, senshaw, levantines, satins, ribbons, sewing thread, and organzine or thrown silk. The raw silk sorts usually known in the Canton market are *tsa-tle*, *taysaam*, and Canton raw silk. The Chinese silk loom is worked by two hands, one of whom sits on the top of the frame, where he pulls the treadles, and assists in changing the various parts of the machine. The workmen imitate almost any pattern, excelling particularly in crapes and flowered satins and damasks for official dresses. The common people wear pongee and senshaw, which they frequently dye in gambier to a dust or black colour; these fabrics constitute durable summer garments, and the pongee becomes softer by repeated washing. Many of the delicate silk tissues known in Europe are not manufactured by the Chinese, most of their fabrics being heavy. The *lo* or *law* is a beautiful article, used for summer robes, mosquito curtains, festoons, and other purposes, but is seldom sent abroad. The English words *satins*, *senshaw*, and *silk* are probably derived from the Chinese terms *sz'lin*, *sensha*, and *szu*, intermediately through other languages.

Japan has been largely a silk-producing country, but since the middle of the 19th century, their losses have been great from the parasite *uji* (maggot), as the Japanese call it, which has preyed upon the silk-worm, and in some years killed from 30 to 84 per cent. of the worms. The fly seems to pierce the silk-worm and deposit its egg underneath the skin, where it is hatched into the *uji* or larva, which, feeding upon the body of the silk-worm during its changes, gradually increases until it is nearly as large as the chrysalis itself, and in the end forces its way out of the cocoon, which thereupon becomes useless. The *uji* then shrinks considerably in the course of four or five days into a small chrysalis of its own, which on dissection discloses the embryo of a fly. The birth of the fly is supposed to occur about the time of the hatching of the first crop of silk-worms in the following spring, when it deposits its eggs, and the existence of the next annual generation begins. This supposition is grounded chiefly on the fact that in the second crop of the worms the summer hatching is comparatively free from the *uji*. The Japanese authorities have evinced the utmost desire to foster silk culture and the foreign trade. They have established filatures, and in 1878 the

production of silk was 2,650,000 kilos. Between 1860-61 and 1868-69 the exports of silk-worms' eggs from Japan to France and Italy ranged up to 20,712 pikuls, value 9,493,400 dollars, or £2,412,905. The value of the dollar ranged from 4s. 5½d. to 5s. 2d.

Corea.—According to a Chinese author, the art of silk-reeling was introduced into Corea in the 12th century before Christ, and spread rapidly throughout the whole region; the narrative of an embassy from China to the Corea in the years 1119-1120 B.C., describes the nobles and the chief officers of the court, with their wives, as dressed in the same kinds of silk fabrics as are still to be found in this extreme eastern peninsula. Corea produces mulberry silk, chiefly white, from bivoltine cocoons.

Annam, Siam.—Later, the industry spread southward, and it reached the Annamite kingdoms. M. de Rosny dates its introduction there from the third century B.C. In Tonquin and Cochin-China the manufacture of silk took considerable hold, and in the 17th century A.D. there appears to have been a large export of silk from these countries. At the present day the silk is most used for home consumption; and it is said to be markedly inferior to that of China. The Siamese appear to have learned the art in the beginning of the 7th century B.C., but the manufacture made no great progress till the 18th century A.D., when the opening of more frequent communication with China gave a certain stimulus to the traffic in silk. Early in the 19th century, according to Crawford, the industry had again fallen into disfavour.

In *Burma*, the manufacture of silk is a lucrative avocation, and many parts of the country are well adapted for it. But the production of raw silk necessitates the destruction of the insects, an act which is looked upon by pious Buddhists with horror. Many years ago, in the wars between Burma and Assam, large numbers of Cathays and Manipurians of both sexes were taken captive to the Burmese capital, where the royal household dress invariably in silk garments. The *putsoe* worn by men and the *ta-ming* worn by women are silk, and the Manipurians and Cathay captives were put to weaving. Cathay and Manipurian families have since moved down the river, under British protection, and silk twist from the Straits and China has found its way into their hands. All their weaving is done with the hand-loom. They have only a simple loom and a spinning-wheel. The silk is imported in bunks. It has then to undergo a process of winding and cleaning and spinning and doubling, of throwing and reeling. If the colour of the silk is to be changed, it must then be dyed, washed, dried, and wound on bobbins, a delicate series of manipulations through which it must pass before it can be woven. The patterns are a mere matter of personal taste, and they can be woven after any fashion or design. The price of silk varies, but the weaver generally doubles it as the value of his work. An ornamented piece of Burmese silk is sold at from two to three rupees per cubit. Ten cubits make an ordinary *putsoe*, and six a *ta-ming*. The silk fabrics of Burma look coarse, compared with European manufactured articles, but they are very strong and durable. These Cathay weavers understand ornamental work, and when they can

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obtain silver and gold thread, such as tassels and fringes as made up in England, they are able to work them up, to blend them up with silk, so as to make a very handsome pattern of an ornamented putsoe or ta-ning. The humbler classes among the Burmese are passionately fond of gay and flashy colours, while those about the palace prefer garments which are rich and chaste, to mere gaudy splendour.

British India seems to have developed within its own bounds the arts of obtaining the raw silk and of manufacturing it into cloth. None of the many languages of this region, nor in the tongues of Persia and Arabia, have names for silk in any way like to that by which it is known in China. The Indian product appears, however, to have been obtained from wild moths; and the continuous efforts which have been made to extend the cultivation of the domesticated mulberry-feeding silk-worms of the genus *bombyx*, have not met with permanent or prolonged success. In the early years of the East India Company silk was an article of trade. But Indian silk was not held in such great esteem as the silks of China, Japan, Siam, and Persia. The earliest of the Madras records, dated 9th November 1670, notifies the despatch of four factors on £25, and seven writers on £7 per annum, of whom one factor and one writer, well skilled in silk, were destined for Cassimbazar. The planting of mulberry trees was urged on the zamindars of Bengal, and in 1769 a staff of reelers was sent to India from Italy, to introduce into the Bengal filatures the system pursued at Novi. The first consignment of the silk prepared in the Italian method reached England in 1772. In Madras, an attempt in 1793 to foster it failed, and was abandoned in 1798. During the efforts made by the E. I. Company, the improvements in the reeling and drying were great, but none in the cultivation of the mulberry trees; and in British India, wherever the mulberry has been depended on, the worms have often been starved, and disease has broken out. Even in Mysore, where the climate is not unsuitable, and great, though fitful, efforts have been made in the Bangalore, Kolar, Mysore, and Tunkur districts, there has been little permanent success, and throughout the country the woven silks have been chiefly from the wild insects, or from the raw product imported from China and Siam. The Mysore Administration Report for 1870-71 states that 31 per cent. of the cultivated land was under mulberry, and the value of the silk produced in the province was estimated at 5½ lakhs of rupees. The Nundidrug division was said to have exported 4610 maunds (Madras maunds probably).

The East India Company's imports into London of raw silk from Bengal were continuous. From 1793 to 1835, the quantities from Bengal by the Company and private dealers fluctuated greatly from year to year, between 88,219 lbs. in 1797 to 1,387,754 lbs. in 1829. In the eleven years 1850-51 to 1860-61, the value of the silk goods exported from India ranged from £122,787 in 1850-51 to £355,223 in 1860-61. In the last few years, British India has been receiving silk goods from foreign countries to a greater extent than the value of its exports, as will be here shown.

In almost every district of British India, there is silk produced either from the domesticated or wild insect.

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Exports from all India as under—

	Quantity.		Rs.	
	1870-80.	1882-83.	1879-80.	1882-83.
Silk, raw, lbs., . . .	563,210	501,576	45,85,055	44,10,415
Chussam and waste silk or cocoon, lbs., . .	838,296	857,857	5,76,515	10,31,017
Manufactures of piece goods, yards, . . .	2,203,971	2,589,217	21,78,937	25,19,997
Mixed yards, . . .	130,193	202,847	1,04,738	2,43,890

Silk thread piece-goods imported into India—

	Yards.	Rs.		Yards.	Rs.
1874-75,	6,970,667	68,46,991	1881-82,	10,787,731	1,10,60,480
1878-79,	7,350,804	82,28,406	1882-83,	8,518,119	89,02,260

Seven-eighths of it from the United Kingdom and China, and in nearly equal quantities.

Silk goods of silk mixed with other materials imported into India—

	Yards.	Rs.	Yards.	Rs.	
1874-75,	108,186	1,16,672	1881-82,	1,401,428	10,32,125
1878-79,	1,536,905	9,87,469	1882-88,	1,153,142	8,98,480

Five-sixths of the value from the United Kingdom. The importation is chiefly into Bengal and Burma.

Silk, raw, imported into India—

	Lbs.	Rs.		Lbs.	Rs.
1874-75,	2,469,235	87,29,269	1881-82,	1,760,595	74,92,107
1878-79,	1,813,093	56,72,364	1882-83,	2,380,150	1,07,41,556

Three-fourths of it from China.

Hyderabad in the Dekkan.—The chief seat of the tassar manufacture is the town Mahdapore, on the right bank of the Godavery, in the Ramghur Circar. The tassar cloths produced at Mahdapore are, in durability and fineness, very inferior to the cloths of the same kind manufactured in Bengal. The tassch worm-breeders are a class quite distinct from the weavers, and are either Telingas of low caste or Gonds; the former reside principally at Chilpore, Mahdapore, and Chinmore. The cloth is prepared principally for the Hyderabad market. The tassch breeder never thinks of keeping up the breed of the insect throughout the year. When the leaf is off the tree about the middle of March, he deems his occupation gone, and he leaves the object of his former excessive care to shift for itself; but with the rains returns his toil. If he can gather a dozen of promising cocoons, which his experience tells him are of females, he is quite satisfied. Carefully does he watch the bursting of the cocoon, and much care does he take of its winged inmate, having previously prepared for it a house of teak leaves dried. The male is not tardy in approaching. Impregnation takes place, the male dies, and in four days after laying her eggs, the female also. The eggs are in number about sixty; of these one-half prove abortive, while the others are hatched in ten days. The small insect is fed on the tender leaves of the *Careya sphaerica*, and in six weeks spins its cocoon. The first brood are spared and allowed to burst their cocoons to supply a sufficient quantity of ova for the tassch harvest. The same process as described is again gone through, with this exception, that the young worms are at this time fed on the leaves of the *Pentaptera tomentosa*, as those of the *Careya sphaerica* are by this period of the season supposed to have acquired some influence noxious to the insect. During the progress of the worm from the egg to the formation of the cocoon, every energy of the tassch breeder is called into action for the preservation of his charge. Ants destroy them, kites and crows prey on them, snakes devour them, and squirrels are said to make a repast of them. The tassch

breeder ascends the *Pentaptera tomentosa* tree; he carefully clears every branch of the different species of ants by which they may be infested, preventing the access of others by surrounding the trunk of the tree at its foot with ashes. The other enemies are kept off by shouting, throwing stones, firing guns, etc.; and it rouses the apathetic peasant of Telingana to eloquence when he recounts what privations he undergoes, what pleasure he derives, and what incessant labour he incurs, while watching the rearing of the worm and the perfecting of its work. The *tasseh* moth of the Dekhan is a species of *Saturnia*. From four to five hundred of the cocoons are sold to the banya and weavers for one rupee; the moth is killed by means of heat. There are three *tasseh* harvests, one at the end of the rains, the other two in the cold season. The winding of the silk is accomplished by boiling the cocoons, separating the floss, of which no use is made, and twisting eight or ten filatures from as many cocoons on the middle of the thigh with the left hand of the workman, and to be wound on the instrument. This instrument, the middle bar of the wood, is held lightly in the hand of the workman, and made to move in a semicircle. An ounce and a quarter of silk is the average daily winding of a single workman; his wages are at the common rate of one pice for winding the silk of fifty cocoons, about three pice a day, as he cannot wind more silk than from a hundred and fifty cocoons. The pice, however, are large, and go there by eight to the rupee. The only dyes used for the *tasseh* silk are the flowers of the *Butea frondosa* and turmeric; by the former the usual familiar colour is produced; by the latter golden yellow is brought out after the threads are for some time immersed in a solution of ashes. The warp threads are stiffened with rice congee.

Panjab.—Raw silk is imported into the Panjab from Khokaud, Bokhara, Balkh, Khulm, Akhcha, Shibarghan, Andkui, and Kashmir; from Saidabad, Murhidabad, Rampur-baulia, in Bengal, and from China via Bombay. The raw silk is sent from Amritsar to all parts of the Panjab for manufacture; raw silk is a staple import by way of Kābul. The principal places of silk manufacture are the cities of Peshawur, Buunoo, Lahore, Amritsar, Multan, Kohat, Leia, and the capital of the neighbouring state of Bahawalpur. The silks of the latter place are considered the best, and the next those of Multan. The silks generally manufactured in the Panjab are—(1) *gulbadan*, very stout and mostly broad and of high price; (2) *daryai*, of a lighter texture, and to be had both plain and shot. Multan produces two other kinds, viz. *khes* and *eklal*, both very broad, and much higher priced than anything made in Lahore; loongees of cotton with silk ends or borders, or silk and cotton mixed; rich loongees all silk, and piece-goods of pure silk or mixed cotton and silk. In Kashmir, paper called *reshmi kaghaz*, or *haridi kaghaz*, is made from the refuse and from pierced cocoons unfit for reeling.

In the *Central Provinces* silk is manufactured from the imported raw silk of the domesticated worm, but more largely from the indigenous *tasar* worm, at Raipore, Bilaspur, Sumbulpore, the Upper Godavery, Chanda, Bhandara, Nagpur, Balaghat, Seonee, Chundwara, Baitool, and Narsingapur. The collection and rearing of the worm

is pursued as an accessory to other employments. The *tasar* silk seems to be chiefly employed for fringes, or for weaving with cotton into mixed fabrics, the wool being cotton and the warp silk. In some districts *muktas* (garments worn by Brahmans after bathing), *cholia* (women's bodices), and *do-pattas* and *dorwas* seem to be made of pure *tasar* silk.

Central Asia.—The countries bordering on the river Oxus, and the canals and watercourses from Samarcand and Shahr-i-sabz, are full of mulberry trees. About ten days or a fortnight after the mulberry trees put forth their leaves, the eggs of the silk-worms are removed from the place where they had been preserved during the winter, and, being wrapped in a cloth, are carried against the naked breast, or still oftener under the armpit. Three to five days are quite sufficient for the little insects to be hatched. They are then placed in a vessel, and fed with the mulberry leaves. After ten days, the worms, according to the expression of the Bokharians, fall into their sleep or trance; they take no nourishment three days running, repeating the same process every ten days, until the time they begin to spin the cocoon. When these are finished, the worm inside is destroyed by exposing the cocoon to the heat of the sun. That done, the Bokharians proceed to reel off the silk threads. The quality of Bokhara silk is much inferior to that of China, and even to the French and Lombard silks, both in colour and softness. The silk annually produced in the Bokhara territory is estimated to be worth 15 lakhs. The greatest quantity is exported to India. There are several descriptions of silk,—*Lab-i-abi* is produced on the banks of rivers and canals; *Vardanzai*, produced in the district of that name to the north-west of Bokhara; *Chilla jaidar*, produced in the environs of Bokhara, is the best, the best specimens being brought from Koubadian and Hazrat Imam, on the north and south banks of the river Oxus.

Persia.—By the 7th century A.D., the breeding of the worm and the manufacture of silk fabrics was firmly established in Persia. The mulberry grows almost throughout Persia; but the true silk region lies on the south shore of the Caspian, between the mouths of the Araxes and Gurgan, or, in other words, the Russian provinces of Shirwan and Persian Ghilan and Mazandaran. The raw silk of Ghilan is the most important Persian article of export. A paper in the *Technologist* for 1865 states that the worms are very carelessly treated, and the silk very variable in quality. Its quality is low, it being ill-reeled and irregular. The industry is also carried on in the Persian provinces of Kachan, Meshed, and Yezd. Yezd produces a beautiful silk fabric called *Huan Kuli Khan*. The colour is very rich, yet very quiet, and is well suited for the dresses of European ladies.

Silk in Europe.—The silk-worms' eggs were conveyed from China to Constantinople by two Persian monks, who had gone to the east as missionaries, and had observed in China the various processes connected with the rearing of the silk-worm, the nature of the trees on which they fed, and the preparation of the silk. This occurred about the year 552, in the reign of the emperor Justinian, who gave every encouragement to the introduction of the valuable insect. The eggs

were conveyed from China within a hollow cane. At the proper season they were hatched, and the caterpillars were fed with the leaves of the wild mulberry tree. The monks continued to superintend, at Constantinople, the rearing of the insects and the whole process of manufacturing the silk. The culture spread from there to Athens, Thebes, and Corinth, in the 10th century. Roger II., king of Sicily, A.D. 1130, took an active interest in establishing it at Palermo, followed by Henry IV. of France and James I. in England, and it has extended to most of the states of the south of Europe, to N. and S. America, Northern and Southern Africa, Madagascar, and Australia. France, Switzerland, Portugal, Spain, Cyprus, Crete have largely engaged in this industry; and in its great seat, the Lombardo Venetian States, there are about 3000 reeling establishments. Even in Great Britain in 1875 there were 696 silk factories, employing 48,124 persons, but its climate is little suitable for the insect and its food, and its establishments get their supplies of raw silk from France, Italy, Turkey, India, and China. London is a great mart, and raw silk is sold there at 14s. to 16s. the lb., and eggs of the silk-worm at 16s. to £2 the ounce. In 1870, Japan sold two millions of ounces of ova for Europe.

Great Britain.—Silk imported into the United Kingdom—

Lbs.	Value.	Lbs.	Value.
1878, 4,174,898	£3,683,261	1882, 3,375,343	£2,792,804
1880, 3,680,286	3,136,816	1883, 3,184,182	2,579,783

Besides that, there was imported in 1882, 44,380 cwt. of knubs and waste, value £587,888, and of thrown, dyed and undyed, 294,207 lbs., value £351,253. The value of all silk and silk manufactures imported into the United Kingdom in 1882 was £14,906,284, comprising silk knubs, husks and waste, also raw silk and thrown, and broad-stuffs, silk and satin ribbons.

Value of exports from the United Kingdom, British and Irish produce—

Year.	Silk, Thrown, Twist, and Yarn.	Silk Manufactures.	Year.	Silk, Thrown, Twist, and Yarn.	Silk Manufactures.
1875,	£880,923	£1,734,519	1879,	£694,735	£1,697,209
1876,	1,080,678	1,794,565	1880,	683,591	2,030,659
1877,	570,999	1,705,153	1881,	1,008,272	2,564,730
1878,	565,266	1,922,953	1882,	825,572	2,692,275

The manufacture of silk in Britain dates from the year 1585, when the sack of Antwerp by the Spaniards drove many Flemish artisans to England. On the revocation of the edict of Nantes, a century later, a large body of French weavers settled themselves in Spitalfields, and the manufacture has always been fostered by the British Government.

In China, Japan, and British India, the industry has been injured by disease appearing amongst the worms. In Italy, until the outbreak of the 19th century epizootic, the insect seems to have found a most congenial habitat, and sericulture had spread more or less all over the Peninsula. Mr. Winkworth, in the Technologist, estimated the yield of Italy at upwards of 100 million pounds of cocoons. The British Trade Journal puts the value of Italian cocoons at 11½ millions sterling. But by the year 1870 the epizootic disease had made great havoc in Italy, which was then largely dependent on imported seed.

In France, the culture of silk seems to have taken a firm hold at the commencement of the

16th century, when Francis I. introduced silk-worms from Milan to Lyons, and the rearing of the worm was simultaneously commenced in the valley of the Rhone. This tract still continues the headquarters of the industry in France, the Cevennes silk bearing the highest reputation. In 1789 France produced 1,000,000 lbs. of raw silk, but in 1853 the out-turn of cocoons reached to 26 million kilos. (corresponding to about 5 million English pounds of raw silk). In 1857, however, the fatal epizootic broke out, and the yield of cocoons fell to 13 million kilos, in 1867.

In Portugal, the silk-worm of the province of Traz-os-Montes alone in Europe escaped the 19th century epizootic. The industry is more generally in the hands of small producers than in other parts of Europe.

The United States of America have taken to silk culture, but Mr. William C. Wyckoff says (Silk Goods of America, 1879) the business has not been largely profitable. The trees for the insects' food belong in almost equal proportions to three species, viz. *Morus multicaulis*, *M. alba*, and *M. moretti*, the last being like *M. alba*, but with a purple berry. The worms introduced are also of three species,—annual, bivoltine, and trivoltine. But the first is the species by far most common, and is said to pay better than the others. In 1878, the United States imported 1,590,663 lbs. of raw silk, and in California the eggs were being sold at from 16s. to £2 per ounce. The cocoons are steamed, dried, and pressed, and sell in Europe at 3s. to 6s. per lb.

New South Wales, South Australia, Victoria, and Queensland have all produced silk. The *ailanthus* worm has been bred at Sydney, and both that breed and the *Bombyx mori* seem to have been tried in Van Diemen's Land so long ago as 1862.

In *New Zealand*, experiments have been made with the *ailanthus* worm (*Attacus cyathia*) and with Japanese (seemingly) *trivoltines*.

SILK-WORM.

Reshm ki keeri, . . . DUK. | Puttoo purughu, . . . TEL.
Puttoo puchie, . . . TAM. | Nar puttoo, . . .

According to Pusanias, the Greeks called the silk-worm Ser. The Tibetans call it Darkyisrin, from Srin or Srin-bu, a beetle.

Procopius (De Bello Gallico) says about A.D. 500-565 certain monks arrived from the (country of the) Indians, and learning that the emperor Justinian had it much at heart that the Romans should no longer buy silk from the Persians, they came to the king and promised that they would so manage about silk that the Romans should not have to purchase the article either from the Persians or from any other nation; for they had lived, they said, a long time in a country where there were many nations of the Indians, and which goes by the name of Serinda.

Theophanes of Byzantium, writing at the end of the 6th century, says: 'Now, in the reign of Justinian, a certain Persian exhibited in Byzantium the mode in which (silk) worms are hatched, a thing which the Romans had never known before. This Persian, on coming away from the country of the Seres, had taken away with him the eggs of these worms (concealed) in a walking-stick, and succeeded in bringing them safely to Byzantium.'

Diseases of the Silk-worm.—That most frequently met with is known by the name of *pattes noires*

SILK-WORM.

or poivre in France. M. de Quatrefages proposed to call it the *maladie de la tache*, from the spots which appear on the worm when attacked with it. These spots can only be perceived by the aid of a magnifying glass, and this circumstance explains why the malady escaped the observation of silk-growers in the majority of cases until five or six days after the worm had cast its fourth skin. The spots exist in all the tissues and organs of the worm, and in its subsequent stages of a chrysalis and moth. In the latter the spots destroy the antennæ, the legs, or a portion of the wings. In the beginning the spot appears under the form of a yellowish matter pervading the whole system; this matter gradually becomes darker, and is then concentrated into a number of tubercles, which are the spots in question. That such a diseased state should exercise an influence on the quality of the eggs, is not surprising. An infected silk-worm may spin its cocoon when the disease is not too far gone, but the insect generally dies, and the body, instead of putrefying, becomes dry and brittle. M. de Quatrefages tried several methods of cure,—first, the hygienic process, which consists in rearing the worms in open sheds instead of close rooms. The leaves of the wild mulberry, not stripped from the branches, he found very efficacious. He strongly recommended silk-growers to rear small lots of worms apart from the others, solely for the purpose of propagating the species. From his experiments, it appears that the silk-worm does not refuse to eat the leaves of the mulberry sprinkled with Peruvian bark, gentian, valerian, mustard, etc., and the two latter powders especially would seem to produce good effects. But scraped sugar appeared to be preferable to all other remedies. The worms eat the leaves sprinkled with sugar with extraordinary relish, and experiments with this substance were accordingly repeated on a larger scale in the establishment of M. Augliviel, in the department of the Gard, where one of the silk sheds, fitted up for twenty-seven trays, was reduced by disease to four. The worms of these were transferred to another shed, and divided into four lots; the first was fed in the common way, the second with moistened leaves, the third with sugared leaves, and the fourth was subjected to a rigorous abstinence of food for seventy-five hours, and then fed chiefly with sugared leaves. At the end of twenty-four hours several worms of the latter lot began to spin, and made several small and imperfect cocoons on the tray. The other worms began to shrivel up and diminish in size, but on receiving the sugared leaves they speedily rallied, and many of them spun their cocoons. The worms fed with moistened leaves fared very badly, and very few of them spun cocoons. Those fed in the common way presented nothing remarkable, and yielded a certain quantity of cocoons; but those fed with sugared leaves thrived well, and spun their cocoons sooner than the others. The quantities of silk yielded by these four lots were respectively:—1st lot, 210 grammes; 2d lot, nought; 3d lot, 392 grammes, and of a superior quality; 4th lot, 152 grammes. One great fact was put beyond a doubt, viz. that medicine may be administered to silk-worms in the same way as it is administered to cattle and poultry.

Mr. Thomas Wardle, F.C.S., tells us in the *Society of Arts Journal*, 9th May 1879, that the silk-

SILK-WORM.

producing insects belong to the order Lepidoptera, and are members of two families, Bombycidae and Saturniidae. All the Saturniidae are silk spinners, but not all the Bombycidae. The British Museum Catalogue contains the names of 294 species of Saturniidae. The Bombycidae are less numerous. The position of these two families in the great system of classification of the animal kingdom may be thus shown:—

Articulata.—Subdivision II. Anthropoda (or true Articulata).

Class VIII. Insecta.—Sub-Class III. Metabola.

Order x. Lepidoptera.—Sub-Order i. Heterocera (Moths—8 groups or tribes).

Group, Bombycina.

Family 10, Bombycidae. Genera, Bombyx, Theophrila, Ocinara, and Trilocha.

Family 8. Saturniidae. Genera, Attacus, Antherea, Actias, Salassa, Rinaca, Rhodia, Caligula, Neoris, Saturnia, Loepa, Cricula.

Mr. Moore has given the following list of all the known species of silk producers in India:—

MULBERRY-FEEDING SILK-WORMS—DOMESTICATED.

Bombyx mori, *Linnaeus*. The common silk-worm, domesticated in China, Bokhara, Afghanistan, Kashmir, Persia, S. Russia, Turkey, Egypt, and Algeria, Italy, France, and Spain, in all which countries it produces but one crop annually, spinning the largest cocoon and the best silk, of a golden-yellow or white.

Bombyx textor, *Hutton*. The Boro pullu of Bengal, domesticated in S. China and Bengal; an annual only, producing a white (sometimes yellow) cocoon, of a different texture and more fleshy than *B. mori*.

Bombyx Sinensis, *Hutton*. The Sina, Cheena, or small Chinese monthly worm of Bengal, partially domesticated in Bengal, where it was introduced from China; produces several broods in the year; cocoon white and yellow.

Bombyx cræsi, *Hutton*. The Nistry or Madrassee of Bengal, introduced from China; domesticated in Bengal; yielding seven or eight broods of golden-yellow cocoons in the year, of larger size than *B. Sinensis*.

Bombyx fortunatus, *Hutton*. The Dasee of Bengal, yields several broods annually, spinning the smallest cocoon, of a golden-yellow colour.

Bombyx Arakanensis, *Hutton*. The Burmese silk-worm, domesticated in Arakan, said to have been introduced from China through Burma; yields several broods annually; cocoons larger than the Bengal monthly species.

MULBERRY-FEEDING SILK-WORMS—WILD.

Theophrila Huttoni, *Westwood*. The wild silk-worm of the N.W. Himalayas. A wild species, the worms being found abundantly feeding on the indigenous mulberry in the mountain forests of the N.W. Himalayas.

Theophrila Sherwilli, *Moore*. The wild silk-worm of the S.E. Himalayas.

Theophrila Bengalensis, *Hutton*. The wild silk-worm of Lower Bengal. Discovered in the neighbourhood of Calcutta feeding on *Artocarpus lacoccha*. Found also at Ranchee in Chutia Nagpur.

Theophrila religiosa, *Helfer*. The Jores of Assam and Deo mooga of Cachar. Feeds on the bur tree (*Ficus Indica*) and the pipal (*F. religiosa*).

Theophrila mandarina, *Moore*. The wild silk-worm of Che-kiang, N. China. Worms stated to feed on wild mulberry trees, spinning a white cocoon.

Ocinara lactea, *Hutton*, Mussoori, N.W. Himalaya. Feeds on *Ficus venosa*, spinning a small yellow cocoon, yielding several broods during the summer.

Ocinara Moorei, *Hutton*, Mussoori, N.W. Himalaya. Also feeds on *Ficus venosa*, as well as on the wild fig, spinning a small white cocoon. It is a multi-voltine.

Ocinara diaphana, *Moore*, Khasaya Hills.

Trilocha varians, *Walker*, N. and S. India.

ATLAS AND ERIA GROUP.

Attacus atlas, *Linnaeus*, China, Burma, India, Ceylon, Java. This appears to be almost omnivorous,

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feeding in different districts upon the shrubs and trees peculiar to them. At Mussoori it is found upon *Bradleya ovata*, *Falconeria insignis*, and several other trees. At Almora the yellow flowering barberry is said to be its favourite food. In Cachar it feeds on various other trees. Cocoon well stored with a fine silk.

Attacus Sylhetica, *Helper*, Sylhet.

Attacus Edwardsia, *White*, Sikkim, Cherra, and Khasya Hills.

Attacus cynthia, *Drury*, China. Domesticated in the provinces of Shan-tung and Ho-nan. Feeds on the varnish tree *Ailanthus glandulosus*.

Attacus Ricini, *Jones*. The Eria of Assam, and Arindi of Dinajpur. Domesticated in the northern parts of Bengal (Bogra, Rungpur, and Dinajpur), in Assam and Cachar, feeding on the castor-oil plant (*Ricinus communis*), yielding seven or more crops annually. Cocoons somewhat loose and flossy, orange red, sometimes white. The so-called 'Ailanthus silk-worm' of Europe—the result of a fertile hybrid between the Chinese and the Bengal species—was produced some years ago in France, by Monsieur Guerin Meneville, and subsequently reared, from whence it was introduced into various parts of the world.

Attacus Canningi, *Hutton*, N.W. Himalayas. Common in a wild state, feeding on the leaves of *Coriaria Nepalensis* and *Xanthophyllum hostile*. Cocoons hard and compactly woven, rusty orange or grey. An annual.

Attacus lunula, *Walker*, Sylhet.

Attacus obscurus, *Butler*, Cachar. Not very common. Stated to feed on a plant called lood.

Attacus Guerinii, *Moore*, Eastern Bengal.

ACTIAS GROUP.

Actias Selene, *M'Leay*, Mussoori, Sikkim Hills, Khasya Hills, Madras. The worms feed upon *Andromeda ovalifolia*, *Coriaria Nepalensis*, wild cherry, and walnut at Mussoori, and on *Odina woderi* in Madras.

Actias Sinensis, *Walker*, N. China.

Actias Leto, *Doubleday*, Sikkim and Khasya Hills.

Actias Menas, *Doubleday*, Sikkim and Khasya Hills.

Actias ignescens, *Moore*, Andaman Isles.

TASAR AND MOONGA GROUP.

Antheraea mylitta, *Drury*, *Antheraea paphia* of authors, the tussar, tasar, or tassah silk-worm. These well-known and valuable insects (of various undetermined species) are widely distributed over India, from east to west and north to south, on the coast, and in the Central Provinces. They feed in a wild state upon the ber (*Zizyphus jujuba*), the asun (*Terminalia alata*), the seemul (*Bombyx heptaphyllum*), etc.

Antheraea mezanakuria, *Moore*, the Mezanakuria silk-worm of the Assamese. The worms which produce the mezanakuria silk are stated to feed on the addakoo (? *Tetranthera*, *sp.*), which is abundant in Upper and Lower Assam. The silk is nearly white, its value being fifty per cent. above that of the moonga.

Antheraea nebulosa, *Hutton*. This is the tasar of the Santal jungles of Colong. It is also found in Singbhum, Chutia Nagpur.

Antheraea Perrotteti, *Guer. Men.* Described as being found in the districts of Pondicherry, feeding upon a species of *Zizyphus*, the jambul (*Syzgium jambolanum*), etc. Stated to produce four broods in a year.

Antheraea Andamana, *Moore*. An allied species to the tasar. Inhabits the S. Andamans.

Antheraea Frithi, *Moore*, Sikkim Himalayas. A common species, inhabiting the hot sub-tropical valleys below 2000 feet. Known only as a wild species. The cocoon is stated to be similar to that of the tasar in form, but of finer silk.

Antheraea Helferii, *Moore*, Sikkim Himalayas. This is a common species found in the hot valleys of Sikkim.

Antheraea Assama, *Helper*. The Moonga or Mooga of the Assamese. The moonga silk-worm feeds upon the trees known in Assam as the champā (*Michelia*, *sp.*), the soom, kontoolva, digluttee (*Tetranthera*

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diglottica), the pattee shoonda (*Laurus obtusifolia*), and the sonhalloo (*Tet. macrophylla*). It is extensively cultivated by the natives, and can be reared in houses, but is fed and thrives best in the open air and upon the trees. The silk forms an article of export from Assam, and leaves the country generally in the shape of thread.

Antheraea Roylei, *Moore*. The oak-feeding silk-worm of the N.W. Himalayas. A common species, feeding on the hill oak (*Quercus incana*) of the N.W. Himalayas (Simla, Mussoori, Almora). The cocoon is large and very tough, the silk being pronounced as promising and worth cultivating. They can be reared easily in the house.

MISCELLANEOUS GROUP.

Salassa Lola, *Westwood*, Sikkim Himalayas.

Rinaca Zuleika, *Hope*, Sikkim.

Rhodia Newara, *Moore*, Nepal Kathmandu. Worms feed upon a species of weeping willow. Spins a brilliant green cocoon, pendent from the twigs.

Caligula Tibeta, *Westwood*, Mussoori, N.W. Himalayas, 7000 feet. Common, the worms feeding on *Andromeda ovalifolia*, wild pear, and the cultivated quince, forming a light, open, net-like cocoon.

Caligula Simla, *Westwood*, Simla, N.W. Himalayas, 5000 feet. Feeds on the walnut, *Salix Babylonica*, wild pear, etc.; forms an open, net-like cocoon.

Caligula Cachara, *Moore*, Cachar.

Neoris Huttoni, *Moore*, Mussoori, N.W. Himalayas, 6500 feet. The worms appear in April, feeding upon a species of wild pear tree. Spins a thin silken cocoon.

Neoris shadulla, *Moore*, Yarkand.

Neoris Stoliczka, *Felder*, Ladakh.

Saturnia Cidosa, *Moore*, hot valleys of the Sikkim Himalayas.

Saturnia Grotei, *Moore*, Sikkim Himalayas.

Saturnia Lindia, *Moore*, Sikkim Himalayas.

Saturnia Anna, *Moore*, Sikkim Himalayas.

Loepa katinka, *Westwood*, Sikkim, 5000 to 7000 feet, Assam.

Loepa Sikkima, *Moore*, hot valleys of Sikkim.

Loepa sivalica, *Hutton*, Mussoori, 5000 feet. Spins a long cocoon, pointed at each end, and of a dark greenish-grey colour.

Loepa miranda, *Moore*, Sikkim Himalayas.

Cricula trifenestrata, *Helper*, the Haumpottonee of the Assamese. Noted as being very common in Assam, the worms feeding on the soom tree, forming an open, net-like cocoon of a beautiful yellow colour and of a rich lustre, the silk being spun in the same manner as the Eria cocoon. Occurs also in Moumei, where the worms are stated to feed upon the cashew-nut tree (*Anacardium orientale*).

Cricula drepanoides, *Moore*, Sikkim.

Antheraea Pernyi, *Guer. Men.*, the oak-feeding silk-worm of Manchuria, N. China. This is described as having been long known to the Manchur Tartars, very large quantities of the silk being used among the Chinese. The worms feed on various species of oak (*Quercus mongolica*), etc., the cocoon differing from the tasar in form and texture. The silk is represented as strong, but with little lustre. Two crops of silk are produced in the year,—a spring and autumn crop. A. Pernyi is successfully reared in France, the eggs hatching at almost freezing point. The silk is much cultivated and used in Japan. Its fibre is oval, and 950th of an inch thick.

Antheraea Confuci, *Moore*, a species allied to A. Pernyi, inhabiting the hills in the neighbourhood of Shanghai, N. China.

Antheraea Yama-mai, *Guerin Meneville*, the Yama-mai silk-worm of Japan. This worm feeds on the oak, and produces excellent silk of considerable commercial value in Japan, forming a cocoon of a pale yellowish-green colour. It has been acclimatized in Europe, and crossed with *Bombyx attacus*.

Saturnia pyretorum from South China. The worm feeds upon the Liquidamber formosana in Canton, Amoy, where the silk is stated to be woven into a coarse fabric.

Theophila mandarina, *Moore*, N. China.

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The silk-worm has four metamorphoses,—egg, caterpillar, chrysalis or nymph, and moth or aurelia. The threads as spun by the silk-worm, and wound up into cocoons, are all twins, in consequence of the twin orifice in the lip of the insect, through which they are projected. These two threads are laid parallel to each other, and are glued more or less evenly together by a kind of glossy varnish, which always envelops them, constituting nearly 25 per cent. of their weight.

In *China*, while the worms are growing, care is taken to keep them undisturbed, and they are often changed from one hurdle to another that they may have roomy and cleanly places; the utmost attention is paid to the condition and feeding of the worms, and noting the time for preparing them for spinning cocoons. Three days are required for them to spin, and in six it is time to stifle the larva, and reel the silk from the cocoons; but this being usually done by other workmen, those who rear the worms enclose the cocoons in a jar buried in the ground and lined with mats and leaves, interlaying them with salt, which kills the pupæ, and keeps the silk supple, strong, and lustrous. Preserved in this manner, they can be transported to any distance, or the reeling of the silk can be delayed till convenient. Another mode of destroying the cocoons is to spread them on trays and expose them by twos to the steam of boiling water, putting the upper in the place of the lower one, according to the degree of heat they are in, taking care that the chrysalides are killed, and the silk not injured. After exposure to steam, the silk can be reeled off immediately, but if placed in the jars, they must be put into warm water to dissolve the glue before it can be unwound.

Rearing Worms.—Mr. Barrow tells us that 'in Che-kiang the houses in which the worms are reared are placed generally in the centre of each plantation, in order that they may be removed as far as possible from every kind of noise, experience having taught them that a sudden shout, or the bark of a dog, is destructive of the young worms. A whole brood has sometimes perished by a thunder-storm.' The chambers are so contrived as to admit of the use of artificial heat when necessary. Great care is taken of the sheets of paper on which the multitudes of eggs have been laid by the silk-worm moths; and the hatching of these eggs is either retarded or advanced by the application of cold or heat, according to circumstances, so as to time the simultaneous exit of the young worms exactly to the period when the tender spring leaves of the mulberry are most fit for their nourishment. They proportion the food very exactly to the young worms, by weighing the leaves, which in the first instance are cut, but afterwards, as the insects become larger, are given to them whole. The greatest precautions are observed in regulating the temperature of the apartments, and in keeping them clean, quiet, and free from smells. The worms are fed upon a species of small hurdles of basket-work strewed with leaves, which are constantly shifted for the sake of cleanliness, the insects readily moving off to a fresh hurdle with new leaves, as the scent attracts them. In proportion to their growth, room is afforded to them by increasing the number of these hurdles, the worms of one being shifted to three, then to six, and so on until they reach their greatest size. When the worms have cast their several skins,

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reached their greatest size, and assumed a transparent yellowish colour, they are removed into places divided into compartments, preparatory to their spinning. In the course of a week after the commencement of spinning, the silken cocoons are complete, and it now becomes necessary to take them in hand before the pupæ turn into moths, which would immediately bore their way out, and spoil the cocoons. When a certain number, therefore, have been laid aside for the sake of future eggs, the pupæ in the bulk of the cocoons are killed by being placed in jars under layers of salt and leaves, with a complete exclusion of air. They are subsequently placed in moderately warm water, which dissolves the glutinous substance that binds the silk together, and the filament is wound off upon reels. This is put up in bundles of a certain size and weight, and either becomes an article of merchandise under the name of raw silk, or is subjected to the loom, and manufactured into various stuffs, for home or for foreign consumption.

When from the large number of worms it is necessary to feed them on floors of rooms and halls, Fortune says a layer of dry straw is laid down to keep them off the damp ground, but whether the worms be fed on sieves or on the floor, they are invariably cleaned every morning. All the remains of the leaf-stalks of the mulberry, the excrement of the animals, and other impurities, are removed before the fresh leaves are given. The Chinese are particular as regards the amount of light which they admit during the period the animals are feeding; no bright light is allowed to penetrate. When the worms cease to feed and commence to spin, the first indication of this change is made apparent by the skin of the little animals becoming almost transparent. When this change takes place, they are picked, one by one, out of the sieves, and placed upon bundles of straw to form their cocoons. These bundles of straw, which are each about two feet in length, are bound firmly in the middle, the two ends are cut straight, and then spread out like a broom, and into these ends the worms are laid, when they immediately fix themselves and begin to spin. During this process the underside of the framework on which the bundles of straw are placed is surrounded with cotton cloth, to prevent the cold draught from getting to the worms. In some instances small charcoal fires are lighted and placed under the frame inside the cloth, in order to afford further warmth. In a few days after the worms are put upon the straw, they disappear in the cocoons and have ceased to spin. In the reeling process, there is, first, the pan of hot water into which the cocoons are thrown; second, the little loops or eyes through which the threads pass; third, a lateral or horizontal movement, in order to throw the silk in a zigzag manner over the wheel; and lastly, the wheel itself, which is square. Two men, or a man and a woman, are generally employed at each wheel. The business of one is to attend to the fire and to add fresh cocoons as the others are wound off. The most expert workman drives the machine with his foot, and attends to the threads as they pass through the loops over on to the wheel. Eight, ten, and sometimes twelve cocoons are taken up to form one thread, and as one becomes exhausted, another is taken up to supply its place. Three, and sometime four, of such threads are

passing over on to the wheel at the same time. The lateral or zigzag movement of the machine throws the threads in that way on the wheel. The water in the pan into which the cocoons are first thrown, is never allowed to boil, but it is generally very near the boiling point. A slow fire of charcoal is also placed under the wheel, as the silk is winding; this fire is intended to dry off the superfluous moisture which the cocoons have imbibed in the water in which they were immersed. A clean, active, and clever workman is entrusted with the care of the reeling process.

Food.—The principal object in the cultivation of the mulberry trees for feeding silk-worms, is to produce the greatest quantity of young and healthy leaves without fruit. For this reason the trees are not allowed to exceed a certain age and height. They are planted at a convenient distance from each other, on the plan of a quincunx, and are said to be in perfection in about three years. The time for pruning the young trees, so as to produce fine leafy shoots, is at the commencement of the year. About four eyes are left on every shoot, and care is taken that the branches are properly thinned, with a view to giving plenty of light and air to the leaves. In gathering these, they make use of steps, or a ladder with a prop, as the young trees cannot support a ladder, and would, besides, be injured in their branches by the use of one. The trees, with their foliage, are carefully watched, and the mischief of insects prevented by the use of various applications, among which are some essential oils. Fresh plants are procured by cuttings or layers, or sometimes from seed.

Mr. Fortune says that in the vicinity of Nantsein, the centre of the great silk country of China, it is on the banks of canals, banks of rice-fields, small lakes, and ponds, where the mulberry is generally cultivated. The trees are planted in rows, from five to six feet apart, and are allowed to grow from six to ten feet high only, for the convenience of gathering the leaves. In training them they are kept open in the centre. Leaves are not taken at all from plants in their young state, as this would be injurious to their future productiveness. In other instances a few leaves only are taken from the bushes, while the remainder are allowed to remain upon the shoots until the summer growth is completed. In the latter case the leaves are invariably left at the ends of the shoots. When the bushes have attained their full size, the young shoots with the leaves are clipped close off by the stumps, and shoots and leaves carried home together to the farm-yard, to be plucked and prepared for the worms. In the case of young trees, the leaves are generally gathered in by the hand, while the shoots are left to grow on until the autumn. At this period all the plantations are gone over carefully, the older bushes are pruned close in to the stumps, while the shoots of the younger ones are only shortened back a little, or allowed to attain to the desired height. The ground is then manured and well dug over. It remains in this state until the following spring, unless a winter crop of some kind of vegetable is taken off it. This is frequently the case. Even in the spring and summer months it is not unusual to see crops of beans, cabbages, etc., growing under the mulberry trees.

The best raw silk, called *taysam*, comes from the province of Hu-kwang; the *tsailee* also comes

from that province and Che-kiang; both kinds are called Nankin raw silk.

In China, the worms fed on the mulberry trees are called T'ien-lai-ts'an, heaven-sent silk-worms. The best silk of China is obtained from cocoons of worms fed on the Tsin-tso-taze.

The raw silk of Sheng-king in Manchuria is from the *Bombyx Pernyi* and *B. fantoni* worms, fed on the leaves of *Quercus Mongolica*, *Q. robur*, *Q. dentata*, *Q. castaneaefolia*.

In Chin-kiang are worms which feed on the *Quercus serrata* and *Q. Sinensis*.

Bombyx cynthia feeds on the *Ailanthus glandulosa*.

Dr. Williamson (Journeys through North China) states that in Shan-tung there is a wild silk from a worm fed on the black pepper tree.

In Chefoo are worms fed on the *Xanthoxylon alantum*, called by the natives Hua-tsiao, peppery flower, which may be that noticed by Dr. Williamson.

In Hankow, worms are fed on the leaves of the mulberry trees, the *nilanthus*, and the oak.

In Fu-chu, a worm that feeds on the camphor tree, falls from the tree and is gathered. They are broken in two, dipped in vinegar, and have their intestines drawn out, dried in the air, and used for fishing-lines.

Saturnia atlas, the giant atlas moth, has wings measuring 7 or 8 inches across. This species, and also *S. cecropia* and *S. luna*, have their wings produced into a tail. The cocoons of *S. cynthia* and *S. mylitta* are used in India for the production of silk. Latreille states that these are the wild species of silk-worm of China.

China Husbandry and Silk Manufacture form the subjects of one of sixteen discourses to the Chinese people. It is there observed that 'from ancient times the Son of Heaven himself directed the plough; the empress planted the mulberry tree. Thus have these exalted personages set an example to all under heaven, with a view to leading the millions of their subjects to attend to their essential interests.' In the imperial Illustrations of Husbandry and Weaving, there are numerous woodcuts, accompanied by letterpress explanatory of the different processes of farming and the silk manufacture. The former head is confined to the production of rice, the staple article of food, and proceeds from the first ploughing of the land to the packing of the grain; the latter details all the operations connected with planting the mulberry and gathering the leaves, up to the final weaving of the silk. From notices of silk-worms in Chinese works collected and published by M. Julien, by orders of the French Government, it appears that credible accounts of the culture of the tree and manufacture of silk are found as far back as B.C. 780; and in referring its invention to the empress Siling or Yuenfi, wife of the emperor Hwang, to B.C. 2602, the Chinese have shown their belief of its still higher antiquity.

Notwithstanding the apparent simplicity of the looms of the Chinese weavers, they will imitate exactly the newest and most elegant patterns from England or France. The Chinese particularly excel in the production of damasks and flowered satins. Their silk crape has never yet been perfectly imitated; and they make a species of washing silk, called Canton pongee, which becomes more soft as it is longer used,

Silk organzine is 'formed of two, three, or more singles (i.e. reeled threads after being twisted), according to the substances required, twisted together in a contrary direction to that of which it is composed are twisted.' Organzine is also called thrown silk; it is used in weaving piece goods.

A great part of the silks and crapes used in Hoo-chow-fu are manufactured in the adjoining towns of Soo-chow and Kang-chow. Flowered crape, however, a very beautiful production, is made in Hoo-chow. The process of manufacture is thus described by the Rev. Mr. Edkins in the North China Herald: 'Two men were engaged at a loom in a cottage on the side of a stream. One sat at the end of the loom moving five pedals, and directing the shuttle and all that needed to be done with the threads that lay horizontal on the frame. The other was perched overhead to superintend the pattern. This he did by means of vertical threads tied up in bundles, a large number of which, distributed transversely through the threads of the horizontal frame beneath him, were at his disposal. These he raised according to the requirement of the pattern, and thus caused that elevation in the threads on the frame below that constituted the flowered part of the piece.'

In Japan, according to a report by Mr. Adams, Secretary of Legation, 'the silk districts are confined to the principal island, and may be divided into three groups,—the northern designated under the general name of Oshiu; the south-western, including those of Echizen, Sodaï, Mashita, etc.; and the central, which produces the Mayebashi, Shinshiu, and other varieties of hank silks, as well as the silks of the Koshu and Hachoji.' The northern isles are somewhat too cold, and the southern too hot, to be a favourable field for the enterprise. The mulberry trees are planted along the borders of the fields, sometimes in rows, at intervals, across them, so as not to interfere with the cultivation of other plants; but at Uyeda in Shinshiu, in groves. The most common kinds of the mulberry trees are the Yotsune, the Nedzumigaishi, the Oha, and Kibuha, all of them known in Europe. They are well manured.

Rearing of Worms.—The mountainous districts at a distance from the sea appear to be most favourable for the production of the eggs, and the Japanese rearers obtain their seed from Shinshiu. In Japan, the houses for rearing silk-worms are two-storeyed, the corner posts are of wood, the intervals between the posts of trellised bamboo covered with an inner and outer coating of dried mud. The temperature within is kept at 70° Fahr. The hatching season varies from the 20th April to the 5th May. Branches of the mulberry trees are cut and dried, and in bundles brought to the rearing-house. To facilitate cleaning the trays, nets stretched on very light frames are laid over the worms, and fresh leaves are spread upon the nets; the worms, attracted by the fresh leaves, climb up to the nets, and they are then transferred to another set of trays. On the worms ceasing to eat and their skin assuming a transparent colour, they are removed to spin their cocoons to separate trays, called Mabushi.

The worms and the chrysalides are subject to several diseases. One of these, chiefly in the low damp localities, is the attacks of the uji, also called koro and bo, in Chinese chii or tsau. It is supposed to be inserted into the caterpillar, but

does not affect its health until after it has turned into a chrysalis. During the period which follows the formation of the cocoons, this maggot kills the chrysalis, on the substance of which it has been feeding; and, having attained its full development, it pierces the cocoon, and renders it useless for anything but floss silk. After the uji has left the cocoon, its colour changes from pale-yellow to reddish-brown, gradually becoming darker and darker, and after three or four days it is nearly black. It is annulated, without feet, and sometimes nearly as large as the chrysalis itself. The uji chrysalis becomes a fly.

Mr. F. O. Adams, H.M. consul in Japan, writing in 1869, and repeating in 1871, says that in the most favoured district in Shinshiu the proportion of uji was from 30 to 40 per cent. Near Koshu it was 56 per cent., besides 10 per cent. of dead chrysalides. In Musashi, Joshu, and Koshu, the general proportion was from 60 to 70 per cent., and in one district of Koshu it even reached 84 per cent. In 1868 the average is said to have been only 10 to 25 per cent.

When the cocoons are retained for eggs, they are placed in a single layer on the feeding trays, and are covered with sheets of paper pierced with holes at regular intervals of two or three inches. After a fortnight, the moths begin to emerge from the cocoon, and, instinctively seeking air and light, they soon pass through the openings in the paper, and couple on its surface, and in the evening the females are placed on cards, where they lay their eggs, till the following morning. From 50 to 100 female moths are put on a card, which in places is set in a varnished frame, to compel the moth to lay its eggs on the cards, as they dislike varnish. When the cards are filled, they are hung up in dry, shady places, till the eggs, which are yellow at first, assume the yellow or green hue peculiar to the Japanese produce.

When the cocoon is kept for reeling, the chrysalis is killed by exposing the cocoons for several days to the sun, or in the absence of sunshine, to the heat of a charcoal fire. The reeling is performed by young women, who throw the cocoons into a hot-water basin, and detach from the cluster of threads, four, five, or more, according to the intended thickness of the silk, making them glide over the smooth surface of a thin round rod placed across the basin. It is re-reeled into a larger skein before it is made up into hanks or bundles and offered for sale.

In 1869, 319,829 lbs. avoirdupois of eggs were exported from Japan to France and Italy. The eggs of *Bombyx mori* and other species of *Bombyx*, are imported into Europe from Japan at about 25s. the ounce, to supply the deficiency caused by the pebrine disease.

In Bengal, the system of growing the mulberry as a standard tree has been tried, but with as little success as attended the experiment of the St. Helena variety on the Bombay side of India. The common bush mulberry is very much preferred by the people at Surdah, commercially, Radnagore, and all other parts of Bengal, where silk cultivation prevails. The *Morus alba* is infinitely to be preferred as food for the worms of the *Bombyx mori*, and this has been introduced from China into Europe as well as into India. *Morus Indica*, the species most common in Bengal, is thought by Dr. Wallich to be only one of its varieties. *Morus atro-*

purpurea is a species introduced into India from China, where it is employed as food for the silk-worm, though Dr. Roxburgh states that it had not been found to answer for that purpose in Bengal. Two varieties (one, the *Doppa foglia*) of the Italian white mulberry, received from St. Helena, were established in the East India Company's botanic garden at Dapuri, in the Bombay Presidency. The then superintendent, Dr. Lush, forwarded to Calcutta young plants, which, in September 1833, were reported by Dr. Wallich to be in a flourishing condition. Two other species are common in the plains of N.W. India, and others have been introduced there from Kābul and Kashmir; one distinct species occurs, moreover, in the Himalaya. Colonel Sykes also drew attention to the great importance of introducing into India the mulberry called *Morus multicaulis*, a distinct species or variety introduced by M. Perrotet into France in 1821, from the Philippine Islands, where it had been brought from China. It is now thought by many, both in Italy and France, to be the most valuable sort for cultivation, and has become a favourite variety in America. Besides growing easily, and affording abundance of leaves of the most nourishing kind, it is said to be able to withstand a considerable degree of cold.

The *Morus nigra* is not the best species for the nourishment of the silk-worm, although the caterpillar feeds readily on the leaves. The white-fruited mulberry, *Morus alba*, a native of China, is the best, and is greatly preferred by the insect. *M. alba* is now cultivated in many parts of Europe, frequently as a pollard by road-sides. It comes into leaf a fortnight earlier than the black mulberry, which is an advantage in the culture of silk-worms. The white mulberry does not thrive in Britain, the winters being too severe. The Philippine mulberry is a favourite in the south of France, on account of the size and quantity of the leaves, and the ease with which it can be propagated.

In the south of Europe, mulberry leaves are sold by weight in the market, and the buyer chooses them either young or mature, according to the age of the insects which are to feed on them. Young worms are fed on tender leaves, while full-grown caterpillars require the stronger nutriment of the mature leaf. Attempts have been made to store food for the silk-worm by drying the leaves in the sun, then reducing them to powder, and placing the latter in jars. This powder, moistened with water, is eaten with avidity by the silk-worm, and may prove a valuable resource in late seasons, or under circumstances which affect the principal crop. It is even thought that three or four crops of cocoons per year may be obtained in northern climates, by keeping successive hatchings of eggs in warm rooms, and supplying the worms with this food during winter.

In the *Bengal Presidency*, the districts of Bardwan and Rajshahi in Lower Bengal are the great silk region. In the latter alone, an area of 80,000 acres are under mulberry cultivation, but in Bogra, Maldah, Murshidabad, Birbhum, and Midnapur, the plant is also largely grown. Three growths of silk-worms of the *Bombyx mori* are usually obtained in the year, in November, March, and August.

The wild silks known as *tassar* or *tusser* are the produce of several undomesticated worms,

which feed on various trees. That of Chutia Nagpur is the *Antheraea paphia*, and it feeds on *Vatica robusta* and *Zizyphus jujuba*; but when semi-domesticated, the leaves for its food are those of the *Terminalia alata*. This species is trivoltine, August, November, and May. Many attempts have been made to introduce the *tassar* silk in European commerce, but have failed. The chief *tassar* worms of Assam are the domesticated *eria* or *Attacus Ricini* which feeds on the castor-oil plant, and the semi-domesticated *mooga* or *Antheraea Assama*, which feeds on the soom tree.

Silk Fabrics.—Of the districts and towns in British India famed for these, may be named in the Madras Presidency—Chedambaran, Dindigul, Madurai, Tanjore. In the Mysore State—Bangalore, Mysore, and Tumkur. In the Bombay Presidency—Ahmadabad, Burhanpur, Dharwar, Surat. In Bengal—Benares, Birbhum, Gaya, Patna. In Burma—Pegu, Rangoon, Shooay-dagon, Tounghoo. In the Central Provinces—Bilaspur and Chanda. In Assam and the N.E.—Darrang, Manipur, Rungpur, Sibsagor; and principal places of silk manufacture are Peshawur, Lahore, Amritsar, Multan, and the capital of the neighbouring state of Bahawalpur. The silks of the latter place are considered the best, and the next those of Multan.

Many of the sarees or women's cloths made at Benares, Pytun, and Burhanpur, in Gujerat, at Narrainpet and Dhanwarum, in the territory of His Highness the Nizam, at Yeokla in Kandesh, and in other localities, have gold thread in broad and narrow stripes alternating with silk or muslin. Gold flowers, checks, or zigzag patterns are used, the colours of the grounds being green, black, violet, crimson, purple, and grey; and in silk, black shot with crimson or yellow embroidery, crimson with green, blue, or white, yellow with deep crimson and blue, all producing rich, harmonious, and even gorgeous effects, but without the least appearance of or approach to glaring colour, or offence to the most critical taste. They are colours and effects which suit the dark or fair complexions of the people of the country; for an Indian lady who can afford to be choice in the selection of her wardrobe, is as particular as to what will suit her especial colour—dark or comparatively fair—as a lady of Britain or France. At the London Exhibition of 1862, silk pieces, figured and gold embroidered, were sent from Bahawalpur by H.H. the Nawab.

Assam.—As each householder reels, spins, and weaves his own cloth, the holiday attire of the Assamese is usually of silk. In Durung, a t'han of good silk measuring 10 yards can be purchased for from 5 to 10 rupees, according to the fineness. The cloth is occasionally coloured, but the Assamese silks are usually of the natural colour as wound from the cocoon.

Afghanistan.—Silks are considerably manufactured at Kandahar. In Kashmir, since 1871, silk is increasing. The silk of Herat, Jalalabad, Kābul, and Kandahar is chiefly consumed in their domestic manufactures.

The larvae of many European moths produce a strong silk; the native silk-worms of America yield a material which has been manufactured into handkerchiefs, stockings, etc., by the inhabitants of Chilpancingo, Tixtala, and other places of South America. The ancient Mexicans used the internal layers of white cocoons, which

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strongly resemble Chinese paper, as a material for writing on.

Wild silks.—The only cocoons at present utilized in India, besides those of the several species of mulberry-feeding worms of the genus *Bombyx*, are those wild ones of five species of *Attacus*, viz. *A. atlas*, *cyphia*, *Edwardia*, and *Ricini*, and perhaps *A. selene*, with eight species of *Antheraea*, viz. *An. Assama*, *Frithii*, *Helferi*, *mezankooria*, *nebulosa*, *paphia*, and *Perotteti*, and *Cricula trifenestrata*.

The wild silk insects of British India are found on the following trees:—*Artemisia*, *sp.*, *Bauhinia parviflora*, *Boswellia thurifera*, *Careya sphaerica*, *Carissa carandas*, *Cassia lanceolata*, *Celastrus montana*, *Chloroxylon Swietenia*, *Conocarpus latifolia*, *Dillenia speciosa*, *Ficus Benjaminia*, *F. tsiela*, *F. religiosa*, *Lagerstræmia Indica*, *L. parviflora*, *Morus*, *sp.*, *Naucllea cadamba*, *Osbeckia*, *sp.*, *Ricinus communis*, *Salmalia Malabarica*, *Syzgium jambolanum*, *Tectona grandis*, *Terminalia glabra*, *Ter. catappa*, *Ter. tomentosa*, *Ter. arjuna*, *Tetranthera lanceifolia*, *Tet. monopetala*, *Vatica robusta*, *Zizyphus jujuba*, *Z. xylopyrus*. In Ceylon, *Antheraea mylitta*, *Drury*, feeds on the country almond (*Terminalia catappa*) and the *Ricinus communis* or castor-oil plant.

The wild moth most commonly met with in Southern India appears to be *S. paphia*. The caterpillar feeds on the leaves of the country almond tree (*Terminalia catappa*), whence it is often called the almond moth. It is also found on the leaves of the ber tree, *Zizyphus jujuba*, the casuarina, etc. The cocoons are ingeniously attached to the twiggy branches of the ber (*Zizyphus jujuba*) by a long stalk, terminating in a ring, encircling the branch. In the thicker foliage of the casuarina, the silk is woven among the leaves without the above provision. It has not been obtained in any quantity from this source in the Madras Presidency.

Tasseeh silk cloth is much used for ladies' and children's dresses, and in most parts in India for native use, being worn by Hindus for certain ritual ceremonies, and while bathing.

Ahmadabad has long held a prominent place as a silk-manufacturing city. Its kimkhab and brocades, though not quite so rich as those of Benares, are much sought after in consequence of their durability and non-fading qualities of their gold tissues. Its mushrooms are supposed to be the best in India, and its ordinary silk cloths are also in good demand.

Dr. Forbes Watson's Textile Fabrics of India includes silk piece-goods, and loongees and sarees of cotton and silk used conjointly, from Surat; embroidery of gold and silver on silk from Satara; silk piece-goods from Ahmadnaggur; silk piece-goods and silk and cotton sarees from Belgaum; silk and cotton loongees from Bombay; and silk and cotton sarees from Dharwar. Berhampore, near Kandesh, also manufactures silk, and there are small colonies of weavers at Jinjerra, Yeola, Tanna, and Revdanda (in Colaba). The establishment of the manufacture at the two last places seems to be due to the Portuguese.

In Europe, the silk-worm is the caterpillar of the *Bombyx mori*. The eggs are smaller than grains of mustard seed, very numerous, slightly flattened, yellowish at first, but changing in a few days to a blue or slate colour. In temperate

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climates they can be preserved through the winter without hatching until the time when the mulberry tree puts forth its leaves in the following spring. The silk-worm, when first hatched, is about a quarter of an inch long, and of a dark colour. If supplied with appropriate food, it remains contentedly in one spot; this is the case throughout its changes, so that there is no trouble in retaining it within bounds, as there would be with some other caterpillars. After eight days' feeding and rapid increase of size, it prepares to change its skin, the first skin having become too small for its body. It remains three days without food, during which time a secretion forms on the surface of the new skin, which helps the caterpillar to cast off the old one; but the operation is further facilitated by silken lines which the insect casts off and fixes to the adjacent objects; these hold the old skin tightly, while the caterpillar creeps out of it. The whole covering of the body is thus cast off, including that of the feet, and of the teeth and jaws; but it is done with difficulty, and sometimes the skin breaks, and a portion of it remains attached to the hinder part of the body, compressing it, and usually causing death. The newly moulted worm is pale in colour, and wrinkled; but it immediately recovers its appetite, and grows so rapidly that the new skin is soon filled out, and in five days another moult becomes necessary. Four of these moults and renewals of the skin bring the caterpillar to its full size, when its appetite becomes voracious, and the succulent parts of the mulberry leaves disappear with extraordinary rapidity. The insect is now nearly 3 inches long; its structure consists of 12 membranous rings, which contract and elongate as the body moves. There are 8 pairs of legs, the first 3 pairs being covered with a shelly or scaly substance, which also invests the head. The mandibles are strong, and indented like a saw. Beneath the jaw are two small orifices through which the insect draws its silken lines. The silk is a fine yellow transparent gum, secreted in slender vessels, which are described as being wound, as it were, on two spindles in the stomach; these vessels, if unfolded, would be about 10 inches long. The insect breathes through 9 pairs of spiracles distributed along the sides of the body. The caterpillar has 7 small eyes near the mouth; the two spots higher up are not eyes, but portions of the skull. Arrived at maturity, the caterpillar is of a rich golden hue; it leaves off eating, and selects a corner in which to spin its cocoon. It first forms a loose structure of floss silk, and then within it the closer texture of its nest, of an oval shape. Here the caterpillar remains working until it is gradually lost sight of within its own beautiful winding-sheet. Taking no food and emitting this large quantity of silk, its body diminishes one-half, and on the completion of its cocoon it changes its skin once more, but then becomes an apparently inanimate chrysalis or aurelia, with a smooth brown skin, and pointed at one end. It remains in this corpse-like state for a fortnight or three weeks, when it comes forth a perfect winged insect,—the silk moth. In escaping from the cocoon, it pushes aside the fibres, first moistening the interior of the cocoon with tasteless liquid from its mouth to dissolve the gum which holds the fibres together. The mouth has no teeth, therefore it cannot gnaw its way out as

generally supposed. In the perfect form, the insect takes no food, and only lives two or three days. The female dies soon after laying her eggs, and the male does not long survive her.

The domestic treatment of the silk-worm has been brought to great perfection in Italy. Formerly the eggs were hatched at uncertain periods, depending on the natural warmth of the season, or they were put in manure-beds, or were worn in little bags about the person next the skin. They are now hatched in an apartment heated to the proper degree by a stove; but they are first washed in water, and afterwards in wine, to separate light eggs, as well as dirt, and the gummy envelope which surrounds the heavy ones. The temperature of the hatching-room is at first 64°, but is gradually raised 1 or 2 degrees daily, until it reaches 82°, which it is not to exceed. Pieces of coarse muslin, or of white paper pierced with holes, are placed over the eggs when they are about to be hatched. Through these the worms creep to the upper surface, and are removed as soon as possible to a cooler place. Young leaves and sprigs of mulberry are laid upon the muslin or paper, when the worms eagerly settle on the leaves, and can thus be transferred to trays, and removed to the nursery. This is a dry room of regulated warmth, with windows on both sides, so that free ventilation may be attainable. Chloride of lime should be in use to purify the air, and a thermometer and hygrometer to regulate the heat and moisture; the latter is apt to abound where silk-worms are kept, and is very prejudicial to them. Moist exhalations arise from the leaves and from their bodies. Fermentation, also, soon takes place if litter and dung be not speedily removed from their trays; these are fertile sources of disease among the worms, and may carry off thousands in a day. 80 lbs. French (=88 lbs. English) of cocoons are the average produce from one ounce of eggs.

Diseases.—One of those to which silk-worms are liable consists of the formation of a minute cryptogamous plant of mildew within the body of the living insect. Damp and fermenting food and litter produce, in the first place, among the fatty matter of the body of the caterpillar, an infinite number of sporules supported by minute stems. These increase to such a degree that the vegetation soon pierces the skin, gives a general mealy appearance to the body of the caterpillar, ripens its seed, which is borne by the winds to every part of the nursery, carrying contagion with it, and at length causes the death of the worms. The dead bodies of worms or moths (for the insect is infected in all stages) are sources of contagion, unless immediately destroyed. This disease is called muscardine in France, calcinetto in Italy. The French name arises from the resemblance of the diseased caterpillar to a mealy kind of sugar-plum made in Provence, and sold by the name of muscardine; the Italian name also refers to the chalky or mealy surface of the skin. Various fumigations and washes have been tried, in order to purify infected nurseries, and to preserve others from the ravages of this malady; a solution of blue vitriol, the sulphate of copper applied to the wood-work, frames, etc., of the nursery, is of great use in destroying the seeds of the fungus, but nothing is so good a preservative as rigid attention to cleanliness and good ventila-

tion. The improved means, first employed in Italy, for preserving the health of these valuable insects, are due to Count Dandolo, who gave particular and scientific attention to the subject, and superseded many an absurd custom in the rearing of silk-worms. According to his method, wicker shelves are arranged in a room at convenient distances, and are lined with paper on which the worms are placed. Such worms only are placed together as have been hatched at the same time, the space allowed them being, for each ounce of egg, 8 square feet during the first age, 15 feet for the second age, 35 feet for the third age, 82½ feet for the fourth, and about 200 feet for the fifth age. The mulberry leaves are chopped, in order to present a large number of fresh-cut edges to the young insect. Four meals a-day, as a regular rule, and luncheons between when the worms are particularly voracious, is the liberal allowance for their subsistence. The temperature at which silk-worms are healthiest appears to be from 68° to 75°, though they are able to bear a much higher temperature. Alternations of heat and cold are exceedingly injurious to them.

The muscardine disease is produced by *Botrytis Bassiana*; the still more terrible pebrine disease is caused by a minute vibrio-like organism.

In *Madagascar*, there is said to be an indigenous silk-worm of great size, fed in the open fields on the pigeon-pea (*Ambira vaty*), and yielding very large cocoons. Little attention, however, is paid to it by the natives. This is probably the silk of which Mr. Consul Pakenham writes, 11th August 1869, 'There is another silk in Madagascar much esteemed on account of its strength, which is said to be collected in a state of floss in the interior, and afterwards treated much the same as cotton.' Mr. Pakenham states that M. de Lastelle imported *Bombyx* eggs from China, introduced the mulberry, and set up a regular establishment at Tamatave, which produced several thousand pounds of fine silk.—*Von Mueller*; *Four Reports on Japan Silk*, by F. O. Adams, 1870-1871; *Mr. Consul J. Troup's Tour in Japan*, 1870; *China Imperial Customs Silk Report*, 1881; *Ure's Dictionary*; *Trade Accounts, Statistical Abstract, and Accounts of Trade of Great Britain and British India*; *Wild Silks of India*, by Thomas Wardle, 1880; *Collection of Papers regarding Tasar Silk*, 1879; *Wm. C. Wyckoff, The Silk Goods of America*, 1879; *Williams' Middle Kingdom*; *Sir J. Sheil, in Markham's Embassy*; *Royle's Arts and Manufactures and Productive Resources of India*, p. 497; *Morrison's Compendious Description*; *Geoghegan, Silk in India, Calcutta*, 1872; *Capt. Hutton*; *Dr. Horsfield and Mr. Moore's Lepidopterous Insects*; *Harris' Nat. Hist. of the Bible*; *Chinese Repository*; *Jurieu's Reports and Catalogues of Exhibitions*; *Davies' Chinese*; *Fortune's Residence*; *Tennent's Ceylon*; *Dr. Walker in Madras J. Lit. and Science*; *Yule's Cathay*; *Huc's Chinese Empire*; *Powell's Handbook*.

SILK-WORM GUT. The substance which is secreted through the mouth of the silk-worm, while in the body of the animal appears as a viscous liquid, which becomes solid when in contact with the air. If a silk-worm be taken when about to spin its cocoon, and immersed for twelve hours in vinegar, on opening the reservoir which contains the liquid silk, this may be drawn out in the form of threads as thick as a common-sized knit-

SILK COTTONS.

ting needle, and of great tenacity. They are used for fishing-lines.—*Dr. T. L. Phipson*, p. 12.

SILK COTTONS are products of several plants, Bombyx, Salmalia, Eriodendron, Ochroma lagopus, the feathery, silk-like material in Calotropis pods and the Cryptostegia. The red cotton tree is the Salmalin Malabarica, and white cotton tree, Eriodendron anfractuosum. Bombyx ceiba and Salmalia Malabarica capsules, on bursting, display a flocculent substance, often mistaken by travellers for cotton. Mr. Williams, of Jubbulpur, succeeded in spinning and weaving some of it so as to form a very good coverlet. It might be used for stuffing pillows, muffs, or coverlets, for wadding, or for conversion into half-stuff for paper-makers, perhaps for making gun-cotton. In the *Trans. of the Agri-Hortic. Soc.* iii. p. 274, there is a report from the Society of Arts on two pieces of cloth made from the Salmalia; but it is observed that, from the shortness of the staple of the down, and its elasticity, it could not be spun by cotton-spinning machinery. The silky down of the Cryptostegia is strong, and might be applied to some textile manufactures.

In other countries, plants yielding this product are—Eriodendron Caribbæum, *Don*; Er. samauna; Pachura barrigon, *Seem.*; Chorisa speciosa, *Bengus.*; Erioccephalus, *sp.*, of Africa.

The silk cotton of the Eriodendron anfractuosum is used in England for stuffing the pads of trusses. Cloth has been manufactured from an admixture of cotton and the floss of the mudar (Calotropis gigantea) and the ak (C. Hamiltonii), which produce this floss in great abundance. Messrs. Thresher and Glenny reported their ability to turn it to account, if obtainable in clean, good condition at £35 per ton. The charges of the down are merely those of the labour employed and the packing. It may be collected at about 1 rupee 8 annas (3s.) per maund (82 lbs.). The plant is to be found in the greatest abundance everywhere, growing most luxuriantly in dry, sandy tracts where nothing else will flourish. The down ought to be collected in May and June, and spread at least over two months.—*Mason; Royle; Madras Ex. Jur. Rep.*

SILLAGO, a genus of fishes, of the family Trichinidæ, and group Trichinina. The following species are known to occur in the S. and E. of Asia:—

- Sillago sihama, *Forsk.* Red Sea, Indian Seas.
S. Japonica, *Schleg.* Moluccas, Japan.
S. maculata, *Q. and G.*, Australia, Archipelago.
S. punctata, *C. and V.*, Australian Seas.
S. ciliata, *C. and V.*, Australian Seas.
S. macrolepis, *Bleek*, Batavia, Bali.
S. chondropus, *Bleek*, Moluccas.
S. domina, *C. and V.*, Bay of Bengal, Archipelago; syn. of Uroscopus cognatus.
S. Malabarica, *Bloch, Schneid.*; syn. of Sciaena Malabarica, *Bl., Schin. Pl., Russell, cxlii., Soring.*
S. Malabarica, *Cuv.*, R. A. ii.
S. actua, *C. and V.* iii. p. 400.
S. actua, *Bleek, Verh., Batav., Gen. xxii. 25, 61–64.*
Ikan Ubi of the Malays of Penang.

SILONG or Selones, the chain of islands of the Malay Archipelago, is frequented by the Silong, a mild, peaceful, and honest race, and little given to crime. They believe that nats or spirits dwell in the sea, land, air, trees, and stones; but they do not invoke or sacrifice to them, nor are they symbolized. Their number does not exceed 1000. They are fishermen, living in their boats or beneath

SILVER.

trees on the beaches till the monsoon becomes severe, when they construct slight huts. They subsist entirely on turtle, fish, and shell-fish. They are timid, reserved, and difficult of approach. All these characteristics they possess in common with most of the Orang Laut seamen who frequent the creeks, islands, and solitary shores of both sides of the Malay Peninsula and the Johore Archipelago, and they are probably a portion of the same race. In a small Silong vocabulary Mr. O'Riley notices its strong Siamese affinities. But it has relations to other Ultra-Indian and even to Chinese languages, which show that it is not a mere offset of the Siamese, but probably a sister language.—*The Silong Tribe, by J. R. Logan, in J. Ind. Archip.*, 1850; *Dr. Helfer, J. Beng. As. Soc.*, 1839, p. 986. See India.

SILPHIDÆ, a family of insects. One species, Apatetica Leboides, *Westwood*, occurs in the Himalaya; length four lines, with black and shining elytra, brassy-green.

SILPHIUM is the Silphion of the Greeks. Two kinds of this substance were described; one, from Cyrene, was probably yielded by Thapsia silphium, a native of North Africa; and the other was most likely asafetida, which has been employed medicinally by Asiatics from very early times.

SILUAR or Sluar. MALAY. Trousers or drawers of different lengths, and receiving separate names.

SILURUS, a genus of fishes of the family Siluridæ. The following species occur in the south-east of Asia:—*S. asotus*, *Linn.*, China, Japan; *S. Afghanæ*, *Gthr.*, Afghanistan; *S. Cochinchinensis*, *C. and V.*, Cochinchina; *S. Malabaricus*, *C. and V.*, Malabar. Parts of the sounds of Silurus glanis and barbel are boiled, but as the glue does not entirely dissolve, the liquid is strained to separate filaments from the gelatine. Besides these, the cartilaginous and tendinous part of several fishes are boiled down to form fish-glue. 31 genera of the Siluridæ are known to occur in the seas and fresh waters around India, Ceylon, and Burma, 26 of them being fresh water. The marine species of the Siluroid genus Arius and its allies have large eggs, which are frequently found in the mouths of the males, and are believed to be hatched there.—*Day.*

SILVER.

Fazzeb, Faddah, . . .	ARAB.	Perak, Salaka, . . .	MALAY:
N'gway,	BURM.	Riaki,	MALEAL.
Yin, Feh-kin, . . .	CHIN.	Sim, Nokra, . . .	PERH.
Solv,	DAN.	Serebro,	POL.
Zilver,	DUT.	Prata,	PORT.
Argent,	FR.	Serebro,	RUS.
Silber,	GER.	Sveta, Rajata, . .	SANSK.
Chandi,	GUJ.	Paddi,	SINGH.
Keseph,	HEB.	Plata,	SP.
Rupa, Chandi, . . .	HIND.	Silfver,	SW.
Argento,	IT.	Velli,	TAM.
Salaka,	JAV.	Vendi,	TEL.
Argentum,	LAT.	Ghyumush, . . .	TURK.

Silver is one of the most anciently known of the metals. It is first mentioned in Genesis xx. 16, and afterwards frequently. In Abraham's time it was common, and according to Genesis xxiii. 15, traffic was carried on with it. Joshua vi. 18, 19, says, 'And ye, in any wise keep yourselves from the accursed thing. But all the silver, and gold, and vessels of brass and iron, are con-

separated unto the Lord.' It is on this principle that the Brahmanical Hindus act. A Brahman will receive from any caste, however degraded, gold, silver, etc., but to receive from Sudras food or garments, etc., would be considered as a great degradation.

Silver is found native and also combined with sulphur in considerable quantities, also as a chloride, and alloyed with other metals, especially lead, gold, antimony, arsenic, copper. It is separated from its ores by the process of amalgamation, and is largely coined into the money of various denominations of many countries; it is largely used for ornament and for domestic purposes, and, being little liable to alteration or to be affected by re-agents, it is much employed for surgical instruments and for vessels for chemical purposes.

Silver is obtained in many countries. An ore of galena or sulphuret of lead at Jungumrazpillay, in the Kurnool district, is rich in silver. One specimen of the Kurnool ore contained upwards of 1 per cent. of silver, or 374 ounces in the ton, the quantity of lead and silver together being only 45 per cent., which was occasioned by there being a considerable quantity of gangue disseminated through the portion examined. Another specimen from Kurnool was found to contain 175 oz., or 3 dwt. in the ton. This, however, accords with the minute researches of Durochet, who found that when sulphide of silver is associated with the sulphides of other metals, it is always unequally distributed. It is found to be advantageous to separate the precious metal where it exists to the extent of only 6 ounces in the ton.

Mr. W. Mainwaring found it in the Madura district in a native sulphuret of zinc (blende). Captain Arthur discovered this metal in Mysore, both in its native state (in thin plates adhering to some specimens of gold crystallized in minute cubes) and as a muriate in an ore containing sulphur and oxide of iron.

Grey silver-ore occurs in the beds of the rivelets of the Kupputgode range, and Heyne (Tracts, p. 315) states that it occurs in the galena of the Nellore and Calastri districts. Silver occurs in the galena of Kulu. The 'silver country of the Waziri,' in Kulu, covers 677 miles, and abounds in silver ores, some producing 1 in 16 parts of silver. Mr. Ball mentions its occurrence in over twenty British districts.

Silver is said to be in considerable quantity near Ihaasa, but it is not worked.

Silver is found in many localities in the Shan States to the east of the Irawadi river, but the most prolific mines are those situated at Bawiyne, Kyoutch, and Toung-byne, near Thee-baw, to the N.E. of Mandalay. It is mixed with lead, and is, in fact, a rich argentiferous galena. One mine, the Kampanee, will yield as much as 40 tikals of silver and 25 viss of lead from one basket of the ore; while the poorest mine gives 4 tikals of silver and 30 viss of lead. Other mines exist, such as the Baudween, Baudweengyee, and Sagaing. The supply of silver obtained hitherto has been sufficient for the requirements of Burma in conjunction with the imports from Yunnan.

Silver mines were seen by Major Slade's party near the Tapeng river, not far from Ponsee. Baudween is north-east from Amarapura and close to the boundary of China, in the N.E. corner

of the province of Moong-meet. From this mine alone, it is stated that about 40 viss of pure silver are produced per day (a rich argentiferous galena, it is supposed, yielding $1\frac{1}{2}$ per cent. of silver). From the difficulty of carriage, the lead cannot be brought away with profit, but the silver fully and amply repays the entire cost of working the mines, which are worked by about 10,000 Chinese, as the Burmese dislike the employment. If the statements be even near the truth, that at Baudween must be one of the richest silver mines in the world; and though there are said to be many other mines in the Shan country, that of Baudween is by much the most productive.

At the Madras Exhibition of 1857, a rich ore of argentiferous galena was exhibited from Martaban by Dr. Brandis, granular or in minute crystals, with silver passing through it in thready veins. This ore, assayed by Dr. Scott, was found to contain about 80 per cent. of silver lead. The quantity of silver was found to vary in the portion examined from 70 to 300 ounces in the ton of ore. By Pattinson's mode for separating the silver, the process proves remunerative where only 7 ounces of silver can be obtained from a ton of metal. The Rev. Francis Mason, M.A., says the limestone of the provinces probably contains a larger quantity of lead. In the valley of the Salwin there is a rich vein of argentiferous galena, which is reported to appear on the surface. Dr. Morton sent a specimen to England for analysis, and Professor Mitchell said it contained lead, sulphur, silver, gold (traces), lime, magnesia, iron, silica, and carbonic acid. It is a sulphuret of lead or galena.

Mr. O'Riley had a specimen of an ore of silver, antimony, copper, and sulphur brought him, which produced 35 per cent. of silver; and the Tavoy gold, it would appear, contains nearly 10 per cent. of the same metal.

Much silver was brought formerly from Tonquin in Annam in exchange for zinc, and from Cambodia.

Crawford says that no veins of this metal have been discovered in any of the islands of the Malay or Philippine Archipelagos, many of which contain abundant stores of iron, gold, tin, and antimony. A small quantity of it, however, appears to be contained in all the gold of these countries, and it is said that on the island of Banca there are silver mines, but the sultan had a great objection to their being worked.

Silver mines are quite as numerous in Japan as those of gold. In one year the Portuguese, while they had the trade, exported in silver £587,500 sterling.

Silver is brought from Yunnan, near the borders of Cochín-China, and the mines in that direction must be both extensive and easily worked to afford such large quantities as have been exported. In China, silver is obtained from Ohing-shui, Lien-chau, Shau-chau-fu, Chau-chau-fu, Shau-king-fu, and Kau-chau-fu (Kwang-tung); also from the island of Hainan, from Kwei-lin-fu, Liu-chau-fu, King-yuen-fu, and Sin-chau-fu in Kwang-si; from Wu-ting-chau in Yunnan; from Chang-teh-fu and Ho-nan-fu in Ho-nan; from Si-gnan-fu in Shen-si; and from Kung-chang-fu in Kan-su. According to the Wan-chau topography, the working of silver was discontinued in the reign of Wan-lih (1615) in consequence of imperial prohibition.

There have been in all countries in historic times great changes in the value of silver compared with that of gold. In British India, in the earlier part of the 19th century, a tola (180 grains) of gold could be purchased for 15 or 16 tolas of silver, but in the period between 1870 and 1883, a tola of gold was costing even 23 tolas of silver. Silver has long been selected as a medium of exchange or standard of value; but at certain periods of history its purchasing power has undergone very great alterations. Between the reign of Edward III. and the accession of Elizabeth, silver rose steadily in value, at the end of that period its purchasing power being double what it was at the beginning. In other words, one ounce of silver at the accession of Elizabeth would buy almost as much as two ounces in the time of Edward III. The causes of this extraordinary rise seem to have been the gradual exhaustion of the old mines and the growth of wealth and trade in Europe. The discovery of the mines of Mexico and Peru caused a great and rapid fall, so that at the accession of Charles I. the purchasing power of silver was only about one-third of what it had been at the accession of Elizabeth. During the following two centuries and a half there was little alteration. The working of the Spanish American mines thus so reduced the value of silver that it took three ounces to buy what one ounce previously would have bought. Silver thus became thrice as cheap as in the middle of the Tudor period, and fifty per cent. cheaper than at the time of Crecy. The mines of Mexico and Peru yielded gold as well as silver, but the latter far more abundantly. Gold therefore also fell in value, but not so much as silver. In the middle ages one ounce of gold exchanged for ten of silver; in 1792, when the United States adopted the dollar coinage, they fixed the proportion at one to fifteen. In other words, the silver dollar was to weigh as much as fifteen gold dollars. By this Act silver was overvalued, and accordingly, in 1803, when France adopted the franc system, the Minister Gaudin fixed the proportion at one to fifteen and a half. Gaudin undervalued as Hamilton overvalued silver, and the consequences were very curious. Fifteen dollars' weight of silver in the open market and as bullion would not buy one dollar's weight of gold, but when coined it would. Consequently it was profitable to every person who had silver to get it coined. Furthermore, it was profitable to every person who had to pay money to pay it in silver, for the silver passed for more than it was intrinsically worth. Silver, therefore, was alone sent to the mint, and silver only passed from hand to hand. What became of the gold? It was legal tender just as silver was, for the United States adopted the bi-metallic system. Either gold or silver, therefore, would discharge debts to any amount. But to pay gold would be to incur loss. Consequently it disappeared from the American circulation, and was exported to France. France also adopted bi-metallism, but as she undervalued silver it would have been a loss to send it to the mint. Accordingly, silver was exported from France to the United States in return for the gold sent by the latter. The United States finding their gold gone, decided upon getting it back; and in 1834 they re-valued the metals, fixing the proportion then at one to sixteen. They thus

passed from one error to another. As they had previously over-estimated silver, they now under-estimated it, and the result was precisely the reverse of what had before occurred. The whole of the silver was exported, and gold took its place. So complete was the substitution, indeed, that since 1854 not a single silver dollar had been coined by the American mints, although the law making silver a legal tender equally with gold remained upon the Statute Book until 1873. Here we have a double illustration, as complete as if it had been intended for verification, of the influence of mere coinage laws on the movement of the precious metals. In the course of half a century we find gold expelled from the United States and silver from France, and then silver swept away from the former and gold from the latter. Notwithstanding previous experience, Germany has recently demonetized a silver coinage, substituting for it a gold one.

The discovery of gold in California and Australia had a considerable effect upon the monetary systems of the world, but to a far less extent than the discoveries of the 16th century. M. Juglar compiled a series of tables which show what that effect was. From 1850 to 1864 the excess of gold imported into France over that exported amounted to the enormous sum of £136,000,000 sterling. On the other hand, the exports of silver exceeded the imports by as much as £68,000,000. While, therefore, the amount of the precious metals in France was increased by £73,000,000, not only was the total augmentation in gold, but also a not much smaller value of silver was displaced by that metal. The first effects of the gold discoveries was thus to undo what had taken place between 1834 and 1854, and to replace gold in the French circulation. But the exported silver was sent, not to the United States, but to the east. The Public Works policy initiated by Lord Dalhousie, the Mutiny, and the demand for Indian cotton caused by the American Civil War, the opening up of China, and subsequently of Japan, all created an extraordinary demand for silver, which the abundance of gold enabled Europe to spare. In the period 1864-74 a change took place. The excess of the imports of gold over the exports in this period was less than £68,000,000, or about half the former excess. But in the case of silver, instead of an excess of exports, we now find an excess of imports amounting to £49,000,000. Thus in the latter period there was an excess of imports of both metals, but the imports of gold had greatly fallen off, whereas those of silver had taken the place of a much larger deficit. And this occurred in spite of the large sums of silver exported to Germany to pay the indemnity! Another fact to be borne in mind is that the change set in before the war, consequently before the demonetization of silver in Germany, before the depreciation of silver showed itself, and before the increased production of the American silver mines. In the spring of 1865 the American Civil War came to a close. The Southern ports were then opened, American cotton began to arrive in Liverpool, and the demand for the Indian article fell off.

In London, between the years 1833 and 1872, the price of a standard ounce of bar silver ranged between 59½d. and 62½d. In 1873, the price of silver began to decline, and since then it has been selling as under:—

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1873, . . 58 $\frac{1}{2}$ d.	1877, . . 54 $\frac{1}{2}$ d.	1881, . . 51 $\frac{1}{2}$ d.
1874, . . 58 $\frac{1}{2}$ d.	1878, . . 52 $\frac{1}{2}$ d.	1882, . . 51 $\frac{1}{2}$ d.
1875, . . 56 $\frac{1}{2}$ d.	1879, . . 51 $\frac{1}{2}$ d.	1883, . . 50 $\frac{1}{2}$ d.
1876, . . 52 $\frac{1}{2}$ d.	1880, . . 52 $\frac{1}{2}$ d.	

In 1871 peace was declared between France and Germany; in 1873 the German Government announced the demonetizing of silver; in 1874 there was an enormous increase of bullion, £22,000,000, mostly gold. In 1876 there were remarkable fluctuations in rates of Indian exchanges and bar silver, and the latter touched the lowest price on record.

Value of gold and silver imported from, and exported to, foreign countries at ports in British India:—

	Gold—Imports.	Silver—Imports.
1847-48, . . .	£1,048,778	£922,185
1857-58, . . .	2,830,084	12,985,332
1867-68, . . .	4,775,924	6,990,450
1877-78, . . .	Rs. 1,57,89,273	Rs. 15,77,65,323
1879-80, . . .	2,05,03,929	9,60,50,019
1880-81, . . .	3,67,20,576	5,31,61,563
1881-82, . . .	4,85,63,920	6,46,63,889
1882-83, . . .	5,09,51,324	6,37,21,250
	Exports.	Exports.
1847-48, . . .	£3,662	£1,416,376
1857-58, . . .	47,011	766,384
1867-68, . . .	166,457	1,405,489
1877-78, . . .	Rs. 1,11,07,983	Rs. 1,00,01,973
1879-80, . . .	29,98,893	1,73,52,586
1880-81, . . .	1,68,586	1,42,35,822
1881-82, . . .	1,24,078	1,08,73,390
1882-83, . . .	16,42,639	17,53,094

—*Mason; Ball; M. Exh.; Oldham; Yule's Embassy.*

SILVER COINAGE. Silver is the legally constituted medium of exchange in all money transactions throughout the British Indian possessions. The extent to which the Hindu, Muhammadan, and British rulers of India have issued coins, may be shown by mentioning that in 1868 Surgeon-Major Shekton in a pamphlet gave the assays of 102 gold mohurs, 62 hun or pagodas, and 1 half pagoda, 24 gold fanams of from 2·6 to 5·9 grains, and 21 foreign gold coins; but of silver coins he gave 456 rupees, 23 half rupees, 6 fanams, and a damri.

The English East India Company kept up mints at several of the large towns, but since the 31st August 1869, when that at Madras was closed, minting has been continued only at Calcutta and Bombay, and that chiefly for silver; for in the ten years 1873 to 1882, the total of gold coined was £156,253; for silver, £60,153,158; and of copper, £679,171.

	Silver.	Copper.		Silver.	Copper.
1873, £3,980,914	£11,012		1878, £16,180,326	£148,591	
1874, 2,370,006	14,461		1879, 7,210,770	66,648	
1875, 4,896,884	111,024		1880, 10,256,967	70,790	
1876, 2,550,218	105,660		1881, 4,249,676	18,660	
1877, 6,271,122	123,429		1882, 2,186,275	8,996	

Indian System of Coinage and Currency.—The silver rupee was introduced, according to Abul Fazl, by Sher Shah, who took the throne of Delhi from Humayan in the year 1542. Previous to his time, the Arabic dirham (silver drachma), the gold dinar (denarius auri), and the copper fulus (folles), formed the currency of the Moghul dominions. Sher Shah's rupee had on one side the Muhammadan creed, on the other the emperor's name and the date in Persian, both encircled in an annular Hindi inscription. Since the same coin was revised and made more pure in Akbar's reign, we may assume the original weight of the rupee from Abul Fazl's statement to have been 11 $\frac{1}{4}$ masha. Akbar's

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square rupee, called from its inscription the jalali, was of the same weight and value. This coin was called char-yari, from the names of the immediate successors of Mahomed, Abubakr, Omar, Osman, and Ali, being inscribed on the margin. This rupee is supposed by the vulgar to have talismanic power.

Masha.—Concerning the weight of the masha of the Muhammadans, some difficulty prevails, as this unit now varies in different parts of India. Mr. Colebrooke makes it 17 $\frac{1}{4}$ grains nearly; but the average of several gold and silver jalali of Akbar's reign, found in good preservation, gives 15·5 grains, which also agrees better with the actual masha of many parts of Hindustan. By this calculation the rupee originally weighed 174·4 grains troy, and was of pure silver, or such as was esteemed to be pure. The same standard was adopted by the emperor Akbar, and accordingly we find coins of Akbar's reign dug up in various places weighing from 170 to 175 grains. Cabinet specimens of Jahangir, Shah Jahan, and Aurangzeb have also an average weight of 175 grains pure; and the same prevails with little variation up to the time of Muhammad Shah, in the coins of opposite extremities of the empire, or struck in the subahs of Surat, Ahmadabad, Delhi, and Bengal, as in the Akbari, Jahangiri, Shah Jahani, Delhi Sonat, Delhi Sonat Alingir, Old Surat rupee; Murshidabad, Persian rupee of 1745; Old Dacca Muhammad Shahi, Ahmad Shahi, and Shah Alam of 1772. The Moghul emperors thus maintained a great uniformity in the currency of their vast empire, and they were very tenacious of their privilege of coining. On the breaking-up of the empire in the reigns succeeding Muhammad Shah, numerous mints were established by ministers and by the viceroys of the principal subahs who were assuming independence, and the coin was gradually debased as the confusion and exigencies of the time increased. The Mahratta and other Hindu states also established mints of their own, retaining, for form sake, however, the emperor's name and superscription, as a titular avowal of Delhi supremacy. As the British dominion spread, these differences gave rise to the difference in the currencies of the British provinces, and by a happy chance brought those of Madras, Bombay, Furrakhabad to a close approximation. Regulation xxxv. of 1793 was the first of those of the E.I. Company which treats of mint matters. At that time the differences in the values of the currencies were very great, but the dates of the coinage on each coin facilitated the work of the sirafts or money-changers in applying the batta to which the known debasement of each coin entitled it. In 1793, the E.I. Company resolved to remedy the inconveniences which had thus arisen, by declaring that all rupees coined for the future should bear the impression of the 19th year of Shah Alam, and thus by its adoption at that early period, it happened that the Sicca rupee was the only one of the Company's coins which retained the full value of the original Delhi rupee. About the same time, the Surat rupee of the Moghul emperor, weighing 178·314 grains, was adopted as the currency of the Bombay Presidency. It contained 172·4 pure, and was thus nearly equal to the Delhi rupee. From depreciations made in the Surat coin by the nawab, the coinage at Bombay ceased for twenty years; but in 1800 the Surat rupee was

ordered to be struck at Bombay, and from that date it became fixed at 179 grains weight, 164·74 pure, and the mohur was equalized in weight thereto. In 1829, under orders from the Court of Directors, the currency of the Bombay Presidency was equalized with that of Madras by the adoption of the 180 grain rupee and mohur. The Arcot rupee in 1788 still retained 170 grains of pure silver, and subsequently, when coined at the mint of Fort St. George, it had a weight of 176·4 grains, or 166·477 grains pure, until the new system was introduced in 1818, and the Madras 180 grain rupee was established.

The former inscriptions upon the E.I. Company's gold and silver coins were in Persian as follow:—

Obverse of the Sicca rupee struck at the Calcutta mint. — 'Hami-i-din-i-Mahomed, Sayah-i-Fazl Oollah sikkah zad bar haft Kishwur Shah Alam badshah.' — 'Defender of the Muhammadaui faith, reflection of divine excellence, the king Shah Alam has struck this coin to be current throughout the seven climes.'

Reverse — 'Struck at Murshidabad in the year 19 of his fortunate reign.'

On the rupee of the Western Provinces, coined at the mints formerly of Farrakhabad and Benares, and at the Sagar mint, the obverse had the same inscription, but on the reverse the date and place of coinage was different, — 'Struck at Farrakhabad in the year 45 of his prosperous reign.'

The Madras rupee had a dotted rim on the face, and an indented cord milling; that coined in Calcutta had an upright milled ridge; it has the symbol of a rose on the obverse. The inscriptions are as follow:—

'The auspicious coin of the warrior king Aziz-ud-Din Mahomed, Alamgir (the father of Shah Alam).' 'Struck at Arcot in the 20th year of his auspicious reign.'

The Bombay coin had a plain edge and the following legend:—

'The auspicious coin of the warrior king Shah Alam, 1215.'

'Struck at Surat in the 46th year of his propitious reign.'

As before explained, the Bombay, the Madras, and the Farrakhabad or Sonat rupee, had fortuitously happened to be of nearly the same intrinsic value—

Arcot rupee, pure contents,	166 grains.
Bombay rupee, „	164·7 „
Farrakhabad rupee, „	165·2 „

The alteration of the standard of purity in 1818 did not affect the proportion of pure metal, and when the Sagar mint was established in 1825, it was ordered to coin the new Farrakhabad rupee of 180 grains weight, the same as the standard of Madras, or containing 165 grains pure.

The inscriptions on the last of the Company's, afterwards adopted as Her Majesty Queen Victoria's, silver rupee are as follow:—

Obverse — 'Victoria Queen.' Reverse — 'East India Company, 1840. One Rupee; Ek-Roopiah.' It is milled upright on the edge. The rupee of Queen Victoria, after annexing India to the crown, has obverse — 'Victoria Queen,' with crowned bust. Reverse — 'One Rupee. India, 1862.'

The *anna* is the sixteenth part of a rupee; there is no *anna* piece in British India, but the last coin of the E.I. Company and the first of Queen Victoria have a quarter *anna* and a half *anna* and

a one-twelfth *anna* or one *pai* coin. That of the E.I. Company had—obverse—A shield supported by a lion and a unicorn rampant, surrounded with a lion rampant, and the words 'Auspicio regis et Senatus Angliæ.' Reverse of half *anna* of the East India Company — 'Half *anna*, Do 'Pai.' Reverse of quarter *anna*—East India Company. 'One quarter *anna*, Ek-'Pai.' The *Pai* or one-twelfth *anna* has,—obverse—'Victoria Queen.' Reverse—'One-twelfth *anna*. India, 1862.'

On the 31st August 1835, five rupees, viz. the Sicca, the Farrakhabad, the Surat, the Bombay, and the Arcot or Madras, were the only legal tender in British India, within their specified local limits. On the following day, 1st September 1835, Act xvii. of 1835 took effect; it directed the coinage of a Company's rupee weighing 180 grains, of a standard $\frac{1}{16}$ ths or 165 grains of pure silver, and $\frac{1}{16}$ th or 15 grains of alloy, and declared it equivalent to the Bombay, Madras, Farrakhabad, and Surat rupees, and to $\frac{1}{16}$ ths of the Calcutta Sicca rupee.

In 1836, an Act discontinued the Sicca rupee as legal tender in discharge of any debt, but permitted its receipt by collectors of land revenue, or by weight, and subject to a charge of 1 per cent. for re-coinage.

In 1862, after the E.I. Company was deprived of their power to rule India, and its government was assumed by the Queen of the United Kingdom of Great Britain and Ireland, Act xiii. of 1862 continued the weight and fineness of the coin of 1835, but changed its designation from 'Company's' to 'Government.'

At present the following British Indian coins are current:—

a. Legal tender in satisfaction of all engagements, viz.:—Silver coins—A Government rupee (weight, 180 grains; touch, 916·6). A half rupee (weight, 90 grains; touch, 916·6).

b. Legal tender for fractions of a rupee only, viz.:—A quarter of a rupee or four-*anna* piece (weight, 45 grains; touch, 916·6). An eighth of a rupee or two-*anna* piece (weight, 22½ grains; touch, 916·6).

Copper Coins.

Weight.

A double pie or $\frac{1}{2}$ <i>anna</i> ,	200 grains troy.
A pie or $\frac{1}{4}$ <i>anna</i> ,	100 „ „
A half pie or $\frac{1}{8}$ <i>anna</i> ,	50 „ „
A pie, $\frac{1}{3}$ of a pie, or $\frac{1}{12}$ <i>anna</i> ,	33½ „ „

Gold.—The old standard for gold coinage in Bengal was 99½ parts of pure gold to $\frac{1}{4}$ of a part of alloy. This was altered by Regulation xiv. of 1818 to $\frac{1}{16}$ ths of pure gold to $\frac{1}{16}$ th of alloy; but the law having become inoperative, the old standard was reverted to for a time, until Act xvii. of 1835 re-established the standard of $\frac{1}{16}$ ths fine (*i.e.* = 916·6 touch), but declared that no gold coin should thenceforth be legal tender in India.

Under the Act xvii. of 1835, the following were the coins:—A double gold mohur, 30 rupees piece; a gold mohur (weight, 180 grains), 15 rupees piece; two-thirds of a gold mohur, 10 rupees piece; one-third of a gold mohur, 5 rupees piece.

By a financial notification of October 1868, sovereigns and half-sovereigns coined at any royal mint in England or Australia, of current weight, may be received in all the treasuries of British India and its dependencies, in payment of sums due to Government, as the equivalent of 10 rupees 4 annas and 5 rupees 2 annas respectively; and whenever available at any Government treasury, they may be paid at the same rates to any person

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willing to receive them in payment of claims against the Government.

An Indian Coinage Act (xxiii. of 1870) became law on 6th September 1870. It provides that the under-mentioned (as a matter of fact, gold coinage is confined as yet to the Calcutta mint) gold coins only shall be coined at the mints, viz. at Calcutta and Bombay, and at such other places, if any, as the Governor-General in Council may by notification direct, viz.:—A gold mohur or 16 rupees piece, a 5 rupees piece, a 10 rupees piece, a 32 rupees piece or double gold. The respective weights and fineness as before, i.e. relatively to 180 grains for the mohur; touch, 916·666.

Silver.—1 rupee, $\frac{1}{2}$ rupee, $\frac{1}{4}$ rupee, $\frac{1}{8}$ rupee. Weight of rupee, 180 grains.

Copper.—1 double pice, 1 pice, $\frac{1}{2}$ pice or one-eighth of an anna, a pie or one-twelfth of an anna. The weight of the double pice to be 200 grains. The other copper coins to be of proportionate weight.

Remedy on copper coins not to exceed one-fortieth in weight.

Device.—The coins struck under this Act bear on the obverse the likeness of H.M. Queen Victoria, and the inscription 'Victoria Queen.' On the reverse, the designation of the coin in English, filled by the word 'India'; with such date and embellishments on each coin as the Governor-General in Council may from time to time determine.

Legal Tender.—No gold coin shall be a legal tender in payment or on account. The said rupee and half rupee shall be a legal tender, provided that the coin has not lost more than 2 per cent. in weight, and has not been defaced or diminished otherwise than by use. The $\frac{1}{2}$ and $\frac{1}{4}$ rupee shall be legal tender only for the fractions of a rupee. None of the copper coins shall be legal tender except for the fraction of a rupee.

Coinage of Bullion.—Subject to the mint rules for the time being in force, the mint-master shall receive all gold and silver bullion and coin brought to the mint, provided it be fit for coinage, and that the quantity so brought at one time by one person is not less, in the case of gold, than fifty tolas, and in the case of silver, than one thousand tolas.

All silver bullion or coin brought for coinage shall be subject to a duty of 2 per cent. on the produce of such bullion; and this duty shall be deducted from the return to be made to the proprietor.

The charge levied for premelting or for cutting such bullion, shall be, in the case of gold, $\frac{1}{4}$ th per mille, and in the case of silver, 1 per mille.

The mint-master, on the delivery of gold or silver bullion or coin into the mint for coinage, shall grant to the proprietor a receipt, which shall entitle him to a certificate from the assay-master for the net produce of such bullion or coin, payable at the general treasury. Assay certificates in case of silver are payable on demand; in case of gold, are payable in gold twenty days after date of mint-master's receipt. When bullion is brought to the mints in the shape of foreign or of uncurrent coin, it is always melted prior to assay.

The following table exhibits the scheme of the British Indian monetary system:—

Rupees.	Anna.	Paisa.	Pal.
1	16	64	192
...	1	4	12
...	...	1	3

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Small cowrie or kauri shells are also made use of for fractional payments, and are reckoned as follows:—

4 kauri make 1 ganda.
20 ganda make 1 pan.
5 pan make 1 anna.

but their value is subject to considerable fluctuation.

The maharajas Sindia of Gwalior and Holkar of Indore use the Ujjain rupee. In the Hyderabad State, ruled by the Asaf Jahi dynasty, the Shamshiri and Hali Sikka silver rupees are current, and many rude copper coins. In the Travancore State, fanams and chakrams.

The following notes on the names of the coins and the schemes of the coinage of Eastern and Southern Asia may be interesting:—

Annam people have one silver coin weighing 569 grains, and another of 5895 grains, possibly the largest silver coin.

Ashrafi, Murahidabad gold mohur, has a weight of 190·895 grains troy.

Adhela, from Adha, HIND., half, signifies the half of a paisa.

Burma has a coinage of 1, $\frac{1}{2}$, and $\frac{1}{4}$ rupees; device, a peacock; weight of Ava rupee of 1866 = 180 grains; touch, 898.

The expressions employed by the Burmese goldsmiths in declaring the quality of bullion, require a knowledge of the Burmese numerals, and a few other words.

Numerals.	Metals.	Assay Terms.
1. Ta. 6. Khyouk.	Shew, gold.	Det, better, or above.
2. Nheet. 7. Khwon.	Shwenee, red or pure gold.	Mee, differing or—
3. Thoun. 8. Sheet.	Nguee, silver.	Meedet, better, in assay.
4. Le. 9. Ko.	Ge or khle, lead or alloy.	Meehyouk, worse, do.
5. Nga. 10. Tahay.	Nee, copper.	Ma, adulterated.
	Hyoo, tin.	

The usual weight of the small lumps of silver current in the place of coin, is from twenty to thirty tikals (thirty or forty tolas); they bear a variety of names from their quality and appearance, the figures given by the action of the fire upon a thick brown coating of glaze (of the oxides of lead and antimony) answering in some degree the purpose of a die impression.

Ban signifies pure or touch, and is the purest obtainable of the Burmese process of refining. The word ban is synonymous with the bani of the Ayin-i-Akbari. Banwari is the Indian name of the touch-needles used in roughly valuing the precious metals.

Kharoobat, shelly or spiral circled, is applied to a silver cake, with marks upon its surface, produced by the crystallization of the lead scoria in the process of refinement. It is supposed to denote a particular fineness, which by Burmese law ought to be ten-ninths yowet-nee in value, i.e. nine tikals of kharoobat pass for ten of yowet-nee silver, or it should contain nineteen and a quarter ban and three-quarter copper.

Yowet-nee, red-leaved flowers, or star silver, is so named from the starry appearance of the melted litharge on its surface. Yowet is a corruption of Rowek, leaf, and the word is sometimes written by Europeans, rowanee, rouni, roughnee, etc. Yowet-nee is the Government standard of Ava, and contains by law eighty-five ban and fifteen alloy per cent. Taking it at nine-tenths of purity of kharoobat, which last is 94·6 touch, its quality

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will be 85.2 fine; which closely accord with the legal value. The average of 60,000 tolas of yowet-nee in an Ava remittance, turned out two dwt. worse (90.8); but there was a loss of more than 1 per cent. in melting, from the exterior scoria.

Dain, the most common form of Ava bullion met with in circulation, is so called from an assessment levied, during the king's reign, upon villages and horses; *dain* signifying a stage or distance of two miles. These cakes weigh from twenty to thirty tikals each. Their prescribed legal quality is 10 per cent. better than yowet-nee, which puts this species of silver on a par with kharoobat. In practice, however, the quality varies from 1 to 10 per cent. better (five better to thirteen and a half worse) than Calcutta standard. The average of fifty-two lakhs of *dain* turned out three penny-weights better.

The following will serve as examples of the mode of valuing bullion:—

Dain ko-moo-det is *dain* 9 per cent. better. *Nga-moo-det*, 5 per cent. better. *Yowet-nee*, standard (85 touch).

Kyat-ge or *ta-tshay-ge*, one tical or tenth of alloy (meaning one-tenth weight of alloy added to standard).

Kyouk-tshay nga-kyat-ge, six tens, five tikals alloy (meaning 60 per cent. of alloy added). *Gyan*, half yowet-nee (and half alloy).

Gold.—The purity of gold is expressed by moss or tenths only; ten moss, *tshay moo* (100 touch), being esteemed pure gold.

King's gold, or standard, is called *ka-moo-ta pe-le-yowe* (nine moss, one pe, four seeds), or nine and three-quarter moss fine.

Merchant's gold is *ko-moo-ta-be*, nine and a half moss fine. Gold mohurs are called eight and a half moss fine by the Ava assayers.

Bactria.—In the reign of Antiochus II., the third of the Seleucidæ, Theodotus, the governor of Bactria, revolted and established an independent monarchy; his capital was the modern Balkh, and his extensive kingdom included parts of Kābul, Khorasan, and Bokhara. By aid of their coins, the names of nine of their princes have been brought down to us. Their coins have been discovered at Surapura and Mathura, between Agra and Etawa, and others in the Panjab. Indeed, both Grecian and Persian coins are met with frequently in India. General Ventura and Sir Alexander Burnes collected many Greek coins in ancient Bactria and the Panjab. Major Tod discovered one of Apollodotus and one of Menauder at Mathura.

Kashmir has the Pookta rupee.

Cash or *Kas*, was a small coin current in Southern India till early in the 19th century; twenty *cash* being equal in value to four *fulus*. *Kas* may be a corruption of the Sanskrit word *karsha*, which is mentioned in Colebrooke's Essay on Indian Weights, as the same with the word *pan*. A *karsha*, or eighty *raktika* (*rati*) of copper is called a *pana* or *karsha-pana*. It is now the eightieth part of a *pan*, but the simple word is all that can be identified as having survived the changes of systems. According to the old Madras system, accounts were kept in *star pagodas*, *fanams*, and *kas*,—8 *kas* = 1 *fanam*, 336 *kas* = 42 (silver) *fanams* = 1 *pagoda*.

Pagoda. The E. I. Co. reckoned twelve *fanams* to the rupee, and three and a half rupees to the

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pagoda. But the bazar exchange fluctuated between thirty-five and forty-five silver *fanams* per *pagoda*. *Fanams* were also coined in a base gold. Copper one, five, ten, and twenty *kas* pieces were coined in England, by contract, for Madras, so early as 1797. The twenty *kas* was also called *dodo* and *fulus*.

The *star pagoda* weighed 52.56 grains; touch, 812 per 1000. It was commonly valued at 3½ Madras rupees. Many varieties of the *pagoda* used to circulate on the Coromandel coast; but since 1833 they have been only obtainable when sought for.

In 1811, a coinage from Spanish dollars took place, consisting of double rupees, rupees, halves, and quarters; and pieces one, two, three, and five *fanams*; the rupee weighed 186.7 grains. A silver coinage of half and quarter *pagodas*, of dollar fineness, also then took place; the half *pagoda* weighed 326.73 grains troy, and was equal to 1½ Arcot rupees. By a proclamation of 7th January 1818, the silver rupee of 180 grains was constituted the standard coin, and all accounts and public engagements were ordered to be converted at the exchange of 350 rupees per hundred *pagodas*. The proportion between the old and new currency then became 3½ rupees per *pagoda*, and in copper 75 *kas* old currency = 14 *paisa* new currency.

Chinese Currency.—*Sycee* silver, in Chinese *Wan yin*, is the only approach to a silver currency among the Chinese. In it the Government taxes and duties, and the salaries of officers, are paid; and it is also current among merchants in general. The term *Sycee* is derived from two Chinese words, *Se*-*se*, fine floss silk, which expression is synonymous with the signification of the term *Wan*. This silver is formed into ingots (by the Chinese called *shoes*, and by the natives of India, *khuri*, or *hoofs*), which are stamped with the mark of the office that issues them, and the date of their issue. The ingots are of various weights, but most commonly of ten taels each. *Sycee* silver is divided into several classes, according to its fineness and freedom from alloy. The kinds most current at Canton are the five following:—

(a) *Kwan-heang*, the hoppo's duties, or the silver which is forwarded to the imperial treasury at Peking. This is 97 to 99 touch. On all the imperial duties, a certain percentage is levied for the purpose of turning them into *Sycee* of this high standard, and of conveying them to Peking without any loss in the full amount.

(b) *Fan-koo* or *Fan-foo*, the treasurer's receipts, or that in which the land-tax is paid. This is also of a high standard, but inferior to that of the hoppo's duties, and being intended for use in the province, not for conveyance to Peking, no percentage is levied on the taxes for it.

(c) *Yuen-paou* or *Une-po*, literally chief in value. This kind is usually imported from Soochow, in large pieces of fifty taels each. It does not appear to belong to any particular Government tax.

(d) *Yen* or *Eem-heang*, salt duties. This class is superior only to

(e) *Mut-tae* or *Wuh-tae*, signifying uncleansed or unpurified, designated the worst of all. It is seldom used, except for the purpose of plating, or rather washing, baser metals.

The tael of *Sycee* in the East India Company's accounts was reckoned at 6s. 8d. sterling. When

assayed in London, this metal was frequently found to contain a small admixture of gold.

Copper Coins of India.—Throughout Central India, until long past the middle of the 19th century, in the Nizam's territories, much perplexity existed in the varieties of paisa, and in the great range of their value, as also, indeed, in the coins of the more precious metals; so that every town and village almost had its separate currency and its established nirkh or rate of exchange with the rupee, to the great inconvenience of the traveller and of the poorer classes. In weight they varied from 280 grains (the Jeyporei, etc.) to 34 grains (the Maiwari); the former passing at about 35, the latter at 378, paisa for a rupee; but the paisa also differs in each district. From the small advantage of melting up copper money, it happens that part of the circulation in this metal is of very great antiquity; and not only many ancient Hindu coins are met with, but Bactrian and Roman copper coins are also at times procurable at fairs, and in the neighbourhood of old towns in Upper India.

The paisa was in some cases adopted as the unit for determining the larger weights of the bazars, as the Gorakhpur paisa, of which 530 were held equal to a passeri (five seers) at Ghazipur; and generally through the Benares province, 2881 'chālāns' of Futteghur in like manner were assumed as the weight of a mān in that district. The Dehli paisa, coined till 1818, was twelve masha or one tola in weight.

Most of the paisa of Native States contained more copper in proportion to their value than the E.I. Company's coin, which was, however, originally one tola in weight, and was gradually reduced to 100 grains. The Sagar mint was for several years employed in converting the native copper money into Benares or trisuli paisa of 100 grains weight, and 64 to the rupee. At Bombay, the old paisa were bought up by Government, for the purpose of removing them entirely from circulation, and substituting the new coin. The Bengal Government also adopted a measure to withdraw the trisuli paisa from circulation, in consequence of their becoming much depreciated in public estimation from a large admixture of spurious coin and other causes; the Calcutta mint being ordered to grant 64 new paisa for 72 trisuli, for an amount not under twenty rupees in value brought for exchange.

The *Cowrie shell*, *Cypræa moneta*, has greatly fallen in value, in consequence of the facilities of commerce. In 1740, a rupee exchanged for 2400 cowries; in 1756, for 2500; but latterly in Calcutta, so many as 6500 cowries could be obtained for a rupee. In Madras, from 1850, cowries had ceased to be used as money; but in Hyderabad of the Dekhan, in 1856, 2688 cowries were to be had for a rupee. Cowrie, in Persian, is simply *khar-mohra*, literally donkey or mule-shell, because mules are ornamented in that country with trappings of shells, as a gosain's bullock and riding horses are in India. In Arabic, it is known by *Wuda*, which Ibn Batuta says were carried in large quantities from the Maldiv Islands to Bengal, where it was used as a coin, and therefore no doubt can be entertained that the *Cypræa moneta* was meant. It is employed throughout all Southern Asia as an amulet in sickness and to avert the evil eye, provided the

neck-shell be split or broken. Among European nations, these shells, on account of the fancied resemblance of their shape to that of the back of a little pig, are known by the names of porcelli, porcellian, porcellanen, and porcelaine, whence we have porcelain, the glaze or varnish on the China-ware being similar to that of the cowrie. The English phrases, 'not a cowrie, and not a cash,' would seem to be derived from these two minute Indian monies.

Dam.—A copper coin of India, now obsolete. In Akbar's time, 40 dam of copper were equivalent in account to one rupee, and the dam of copper is itself defined at 5 tank, or 1 tola 8 masha and 7 rati in weight, which, at 186 grains per tola, is equal to 323.5625 grains. There seem to have been 9.29 chital in each dam, and in the Sher Shahi rupee 371.8 chital, instead of the old 320 divisional coins of that name and value, which went to the lighter silver piece of former days. In the Ayin-i-Akbari, and in most revenue accounts, the dam is considered the fortieth part of a rupee; but to the common people it is known as the fiftieth of a tuka; 25 therefore go to a paisa, and 12½ to an adhela.

Denar, a Persian gold coin, from the Latin denarius.

Dirham, an Arabo-Persian silver coin, from the Latin drachma.

Dilli-all or *Dili-wal*, in A.H. 614, A.D. 1217, was the ordinary coin of the country about Dehli. The original currency, it is supposed, corresponded with the bullion money of Prithi raja and others, which was imitatively adopted by the Muhaumadans in the early days of their occupation of Hindustan.

Dumree or *Damree* is commonly known as a nominal coin, equal to 3½ or 3¼ dam, or between 2 and 3 gandas; so that a damree varies from 8 to 12 cowries, according to the goodwill and pleasure of the money-changers.

Fulus or *fuls*, an ancient Arabic copper coin, named from the Roman follis, the modern fulus of the Persian Gulf.

Ganda, HIND., is four pice.

Japan has the silver ichibu, 132.5 grains; nishoo, 25.3 grains. The gold koban or kobang of Japan, A.D. 1783 and 1796, 240 grains, was coined by the Dutch E.I. Company.

Japan, in 1877, imported 2,072,673 dollars, but exported 10,079,200.

The Osaco mint coined 690,602 gold yen, 3,895,136½ silver sen, and 1,115,817½ copper sen and rin; total, 5,701,555½.

The silver yen is identical in size with the Mexican dollar. The ichibu silver coin is no longer current. Since 1875, the new Japanese trade silver dollar is four grains heavier than the silver yen, and is identical with the American dollar.

Masha, a weight in India varying from 14.687 to 18.5 grains troy, the average being 15½ grains. The rupee of Akbar, which was based upon that of Sher Shah, weighed eleven and a half masha.

Mohur, from Muhr, HIND., a seal, is a gold coin of value 15 or 16 rupees, now uncurent in India.

Nepal coins.—Nepal was conquered by the Gurkhas in the Newar year 888, corresponding with A.D. 1768. Prior to this epoch, the valley of Khatmandu was divided into three sovereignties, Patan, Bhatgnon, and Khatmandu, each governed

by a raja. Hence, on the Newar coins, three series of *rajas'* names are found, those of Bhatgaon being generally distinguished by a shell, those of Patan by a trisul, and those of Khatmandu by a sword.

The old coins of the Mal or Newar *rajas* are much valued for their purity, and are worn by the women, strung to necklaces or armlets, as tokens in memory of their ancestors. The gold mohur of Nepal is 83 to 85 grains. The damree is current in Nepal.

The Nepalese procure all their silver from China, in the form of stamped lumps, as they are current in Lhasa; for the Tibetans generally follow the Chinese custom in their money transactions, of paying and receiving by weight, and the merchants carry scales with them for the purpose. Since the Gurkha conquest the Vikrama era has superseded that of Newar for ordinary purposes, and the Saka, commonly used in Hindustan, has been introduced upon the Nepalese coins.

Netherland India has the silver gulden of 166 grains, also its half and quarter.

Pagoda, a Portuguese appellation of a gold coin, the hoon, derived from the pyramidal temple depicted on one side of the coin. The proper Hindu name is Varaha, wild boar, and doubtless originated in a device of the boar incarnation or avatar of Vishnu upon the ancient coinage of the Carnatic, for the same figure appears as the signet of the *rajas* of that country in some old copper grants of lands in the Mackenzie collection. The Hindu name probably varied according to the image of the coin; thus we find the Rama Tanka having the device of Rama and his attendants; and the Matsya Hun of Vijayanagar with four fishes on the obverse. Other pagodas have Vishnu, Jagannath, Venkateswar, etc., on them; those with three Swami or figures are of the best gold, and are valued 10 per cent. higher than the common pagoda. Hun is the common term used by the Muhammadan writers, and, indeed, generally by the natives, for the pagoda. It signifies gold in the old Carnatic language.

The hun was subdivided into fanams and kas. Fanam, or more properly panam, is identical with the word pan, known in Bengal as one of the divisions of the Hindu metrical system, now applied chiefly to a certain measure of cowries and copper money. The old fanam was of gold only, and was the one-sixteenth of a hun. In the *Lilavati* we find,—16 paru = 1 dharan, 16 dharan = 1 nishk, where the dharan (or dharam) seems to accord with the hun, which is identical in weight with the Greek drachma. The Ikkeri pagoda contains sixteen fanams; that of Varari and Anandru, fourteen; and the Kalyan pagoda, twenty-eight. The division adopted by the British was forty-two.

Panna.—The standard of panna under the Peshwa was called the Ankusi rupee, from ankus, the instrument used by the mahout to guide the elephant; probably a symbol marked on the coin.

The Parthian or Arsacian monarchy was erected by Arsaces, who filled the office of satrap in Bactria, in the year B.C. 256. Vaillant wrote a history of this powerful dynasty, and endeavoured to classify the coins of the twenty-nine Arsacidæ kings. It was subsequently absorbed

in the Persian empire in the reign of Alexander Severus, A.D. 226. Their coins have often been found in Southern Asia, the greater number having the Greek word Arsacoy, with different epithets.

Persian ancient coins.—According to Marsden, it was not until the khalifat of Abdul Malik, in the year of the Hijira 76 (A.D. 695), that a distinct coinage was instituted with a view of superseding the currency of Greek or Byzantine and Persian gold and silver.

Persian modern coins.—The Futteh Ali Shah rupee of Shiraz and Hamadan weighs 105 grains; the Karan of Muhammad Shah, 82 grains, minted at several places of 79 to 82 grains; the Huzur dinar, 106 grains; the Larin of Persia, 74·5 grains. Of gold coins, Persia has one of A.H. 1127, weight 166·48 grains, and the Toman, A.H. 1240 and 1248, weighing 68·9 to 73 grains.

Piastre.—The gold piastre of Turkey, A.H. 1115-1171, weight, 53·35 grains.

Pool, PEHLAVI, or Phool, PARSEE. Obolus et res quævis obolo similis ut equama piscis simil (fulus), Borhani Katiu, inde. Be Poolee; Abdul Malik, n. c. Pecunie defectus. Abul Fazl says that the pool of olden days was equal to four tolas; Ferishta, again, gives 1 or 1½ tolas.

Rati.—Colonel Anderson considers the rati may be measured as high as 1·93 grains, and the masha at 15·44 grains.

Sanat, ARAB, year, generally used in coinage of Muhammadan rulers, as the year of their reign, also as the Hijira year.

Sikka, HIND., a coining die, applied to a coin formerly current in India.

Tibet.—M. Csoma de Koros states that the English rupee circulates freely through Western Tibet. The common Chinese brass money, with a square hole in the centre, is likewise current in Lhasa, as generally through the whole of the Chinese empire. The Lhasa (silver) of Tibet is 58 grains.

Tola, HIND., a weight in India, equal to 180 grains troy, the weight of the present rupee.

The gold zecchino or sequin, A.D. 1797, of Ludovico Manin, the last doge of Venice, was current in many parts of India under the names sultani, putli, and putli dukkun; it weighs 53·5 grains.

SILVER FISH. The bodies of the genus Chanda are more or less diaphanous. The name Chanda is from the Hindi word Chandi, silver. They are much prized by the Chinese.

SILVER SKIN of the coffee bean enwraps the bean. See Parchment.

SIMANTONYANA, a Hindu household ceremony of parting the hair of an enceinte woman, on the fourth, sixth, and eighth months.

SIMBUL, an umbellifer, resembling the 'jira' or cummin seed; it has an edible bulbous root, said to be much relished by bears.—*Cleghorn's Panjab Report*, p. 100.

SIMEON SETH, at the command of Alexis Comnenis, made a Greek translation of the fables of Bæpai.

SIMIADÆ, or monkeys, a family of the mammalia of the order Primates, viz.:

Order. Primates.

Fam. Simiadæ, Monkeys.

Quadrumanæ.

Hoopithecæ, van Hæven.

Catarrhinæ, Geoffroy.

Sub-Fam. Simiina, Apes.

Troglydites niger, chimpanzee, Africa.
Tr. gorilla, gorilla, Africa.
Simia satyrus, orang-utang of Borneo.
S. morio, orang-utang of Sumatra.
Simanga syndactyla, *Raffles*, Sumatra.

Sub-Fam. Hylobatina, Gibbons of Indo-Chinese countries and Malayana.

Hylobates hoolook, hoolook of Assam, Cachar, Khasaya, and Sylhet.
H. lar, gibbon of Tenasserim.
H. agilis, gibbon of Malay Peninsula; others from the Malay Islands.

Sub-Fam. Colobina, Entellus Monkeys.

Gen. Presbytis, *Illiger*. *Semnopithecus*, *F. Cuvier*.
Hunuman, Langur, HIND.

Presbytis entellus, Bengal langur.
Simia, Dufrenoy. *P. anchises*, *Ell.*
Musa, CAN. *Hanuman*, HIND.
Langur, HIND. *Wanur*, *Makur*, MAHR.
 Common in Bengal and Central India.

Pr. schistaceus, *Hodgk.*, *Horsf.*
Kubup, BHOT. *Langur*, HIND.
Himalayan langur, *ENG.* *Kamba Suhu*, LEPCH.
 Occurs throughout the Himalaya.

Pr. priamus, *Ell.*, *Bly.*, *Horsf.*
Madras langur, ENG. *Gandangi*, TEL.
 Inhabits the eastern side of the Peninsula and the north of Ceylon.

Pr. Johnii, *Jerdon*.
Simia Johnii, *Fisher*. *S. Johnii*, *var.*, *Martin*.
Semnopithecus Dussanmieri, *Schinz*. *S. cucullatus*, *Is. Geoff.*
S. hypoleucos, *Blyth*, *Horsf.*
 The Malabar langur of Travancore, Cochin, Malabar, and South Canara.

Pr. jubatus, *Jerdon*. *Semnopithecus Johnii*, *Blyth*, *Martin*.
 The Neigherry langur of Neigherries, Annamalai, Pulney, and Wynad, not below 2500 and 3000 feet.

Pr. pileatus, *Blyth*, Sylhet, Cachar, Chittagong.
Pr. barbei, *Blyth*, interior of Tipperah Hills.
Pr. obscurus, *Reid*, Mergui.
Pr. phayrei, *Blyth*, Arakan.
Pr. albo-cinereus, Malayan Peninsula.
Pr. cephalopterus, *Blyth*, Ceylon.
Pr. ursinus, *Blyth*, Ceylon.

Sub-Fam. Papionina, Baboons.

The true baboons of Africa and monkey-like baboons of India.

Inuus silenus, *Jerdon*, lion-monkey.
Simia leonina, *Linna.* *Silenus veter*, *Gray*, *Blyth*.
Nil-bandar, BENG. *Nella-manthi*, MALACAL.
Sialh bandar, HIND.
 Western Ghats, Cochin, Travancore.

I. rhesus, *Jerdon*, Bengal monkey.
I. erythræus, *Schreb.* *Pithecus cinops*, *Hodgk.*, *Hors.*, *Blyth*.
Morkot, BENG. *Marcut banur*, LEPCH.
Piyu, BHOT. *Banur*, "
Bandar, HIND. *Suhu*, "
 Inhabits nearly all India.

I. pelops, *Jerdon*.
Macacus Assamensis, *M'Cli.* *Inuus Sikkimensis*, *Jer.*
Macacus Sikkimensis, *Hodgk.*

The hill monkey, high up in the Mussoori Hills.
Inuus niemestrinus, *Jerdon*, Tenasserim, Malayana.
I. leoninus, *Blyth*, Arakan.
I. arctoides, *Is. Geoffrey*, Arakan.

Gen. Macacus radiatus, Jerdon.

Simia sinica, *Linna.*, *Ell.*, *Blyth*, *Horsf.*
Munga, CAN. *Wanur*, *MAHR.* of Sykes.
Madras monkey, ENG. *Kerda*, *MAHR.* of Ghats.
Bandar, HIND. *Vella Munthi*, TAM.
Makadu, MAHR. *Koti*, TEL.
 All over Southern India.

Macacus pileatus, *Shaw*, of Ceylon.
M. carbonarius, *F. Cuvier*, of Burma.
M. cynomolgus, *Linna.*, of Burma.

Mr. A. Russell Wallace tells us that, with the

exception of the orang-utang, the siamang, the *Tarsius spectrum*, and the *Galeopithecus*, all the Malayan genera of quadrumana are represented in India by closely-allied species. The Indo-Malay islands have 170 species of mammalia. Of these 24 are quadrumana. The orang-utang species occur in Sumatra and Borneo; the siamang, next to them in size, in Malacca and Sumatra; the long-nosed monkey in Borneo, and gibbons, long-armed apes and monkeys. In Timor, there are 15 bats and 7 land mammals; amongst them the *Macacus cynomolgus*, the common monkey of all the Indo-Malay islands. *Hylobates*, the wa-wa or long-armed ape, is the most beautiful of all the monkey tribe. The fur of this gentle little animal is grey, its face, hands, and feet are jet-black; in features it more resembles those of the human race than the orang-utang.—*Jerdon*; *Blyth*, *Cat.*; *Horsfield*; *Wallace*.

SIMLA, a sanatorium in the Simla district of British India, situated on a transverse spur of the Central Himalayan system, in lat. 31° 6' N., and long. 77° 11' E. Mean elevation above sea-level, 7084 feet. The Simla district is under the Lieutenant-Governor of the Panjab, and consists of several detached plots of territory among the hills of the Lower Himalayan system. Area, 18 square miles; population in 1868, 33,995. The mountains of Simla district and the surrounding Native States compose the southern outliers of the great central chain of the Eastern Himalayas. The climate of Simla Hills is admirably adapted to the European constitution, and the district has therefore been selected as the site of numerous sanatoria and cantonments. The plains at the foot of the Simla Hills attain 1000 feet elevation, and the outer ranges are lower than those of Garhwal and Kamaon. Rupar, close to the Sutlej amongst the outer hills, is under 1000 feet, but Subathu, a little farther in, is 4200; and Kussowlee, 6500 feet. The name is the Hindi Shyen Malay. Simla was taken from the Jun raja in 1815, and given to the Patiala raja, but again obtained from him as a sanatorium; the houses are scattered over an extent of about 7 miles, on a series of heights varying from 6500 to 8000 feet, which is the highest elevation. The portion of the Himalaya visible from Simla is a depressed continuation of the chain, extending from the emergence of the Sutlej through the snow, to an abrupt limit bordering close upon the plain of the Panjab near the debouché of the Ravi; few, if any, of the detached peaks rise beyond 20,000 feet.

The range bears wild thyme, wild strawberries, various oaks, pines, the deodar, and all the forms of Europe. *Pinus excelsa* is a very common tree at Simla, particularly on the southern face of Mount Jako, which is the highest part of the ridge. *Abies Smithiana* is rare, while the deodar is common on the southern and western slopes of Jako, above 7000 feet; and again in shady groves at the bottom of the valleys on both sides of the ridge, as low as 5000 feet. *Pinus longifolia* is common at the western or lower extremity of the Simla station, and prevails, to the exclusion of any other tree, on the dry, sunny spurs which run towards the south, at elevations from 5000 to 7000 feet. The trees furnishing the supply of firewood at Simla are chiefly *Quercus incana*, *Rhododendron arboreum*, *Andromeda ovalifolia*, *Pinus excelsa*,

and *Cedrus deodara*. The fruit of the trimal, or *Ficus macrophylla*, is sold in the bazar at Simla.

Koli is the name given to the lower class of cultivators in the Simla Hills. The Kanait are an agricultural race in the Simla Hills and east of the Sutlej, holding most of the land in the Simla Hills. They are inferior in position to Rajputs, but they are often educated, and are generally ministers to the Rajput chiefs. Their women are nice-looking, and all the tribe who are not (in the upper hills) in contact with Tartars are quite Aryan, though not very large. In certain places there is a partial and local practice of polyandry among them, but it is not the general custom of the tribe. The hillmen of Simla are offspring of the dark Kayasth races and Rajputs who have for eight centuries been flying to the mountains to escape Muhammadan invasions. They are filthy in their persons; they have clear, almost Anglo-Saxon, complexion; many have goitres, and they hate Muhammadans. Their chiefs, as the ranas Dati and Kat, are of Rajput origin, and they have a municipal system, with shamilik or commons, and a lombardar or mukhia, i.e. chief. Polyandry prevails among the hillmen beyond Kotghur, but it is on the decline, polygamy often taking its place. In the winter the men almost hibernate, spending months in eating and sleeping.

Simla district produces iron-ore, plumbago, pipe-clay, red ochre, limestone, sandstone, and fossils.—*Imp. Gaz. viii.*; *Cal. Review*, 1867; *Thomson's Trs.* p. 22; *Chs. Hervey, Adventures in Tartary*; *Hooker and Thomson, Flora Indica*, p. 202; *Ann. Ind. Adm.*

SIMON JANUENSIS, physician to Pope Nicholas v. (A.D. 1288-92), mentions meconium as the dried juice of the pounded capsules and leaves of the poppy.

SIMOOM. ARAB., a hurtful hot wind. One prevails in the hot season on the Dasht or plain of Battekotee between Hazar-nao and Jalalabad, where the mountains on both sides are covered with perpetual snow. It is said to be generally fatal to all men, horses, and cattle who encounter it, and as severe in its effects in the night as in the day. The simoom, samiel, or sammi of Arabia, the khamsin of Egypt, and the harnattan of the coast of Guinea, is described as being hot and pestiferous, sweeping over the country with such speed, that travellers might be stifled in a moment, unless they throw themselves close to the burning sand and cover their faces with their cloths. Mr. Werry, Consul-General for Syria in 1838, had a meeting of the chief Aghel and of the Anazeh Shaikhs, who stated that the simoom is hot and suffocating, and has frequently caused the death of persons who have been unable to shelter themselves from its deleterious influence. Ferrier says this hot blast, called Sirocco in the south of Europe, is the Sharkia or East Wind of Scripture. In Egypt, Damascus, Arabia, and Baghdad, it blows by sudden squalls, the approach of which is indicated by a certain perturbed state of the atmosphere. The real sammi or simoom, if it actually occur, seems a current of air, probably electric, of rare occurrence, and causing instant death, and peculiar to the deserts. It has no injurious effect on vegetation, perhaps because it does not come in contact with it, as it rarely approaches within one or two feet of the ground. The camel, being aware of its approach, instinct-

ively kneels down, and lays its head close to the ground, thus escaping its effects. Where the hot winds or simoom blow, they often become, above Sehwan, dangerous in their effects. The natives, aware of their power, avoid travelling at the season of their occurrence. There is probably great exaggeration.—*Col. Chesney, Euphrates*, i. p. 578; *Ferrier's Journ.*; *Postan*.

SIMURG, PERS., a fabulous bird of the Persians. SIN. CHIN. The gods. Among existing religions of Japan, the Sin-tu (Siu, the gods, and Tu, faith) and the Buddhist are the most extended. The Sin-tu embraces a cosmogony hero-worship, the Ten-sio-dai-siu, the Sin goddess, being the principal object of worship. The religion has a trace of Buddhism. See Japan.

SIN. Five great sins in the Hindu code are,—stealing gold, drinking spirituous liquors, murder of a Brahman, adultery with the wife of a spiritual teacher, and association with a person guilty of any of these crimes. To kill a Brahman is one of their greatest sins; to kill a cow is also very heinous, as also to kill a woman or an infant. Most of the sins of the Brahmanical Hindus are, however, breaches of ceremonial observances.—*Hindoo Theatre*, p. 30.

SIN or Aba-Sin, a name of the river Indus. Sin is a Scythic word for river, so applied by the Hindus. Aba-Sin is the river Indus, and h and s being interchangeable along the line of the Indus, the Hafta Hindu are the seven rivers, Sât-sind of the Panjab. In classical Persian literature, siah (black) is synonymous with hind, and Hindu is identical with siah-fam, dark-complexioned. Thus hind-hanna is the equivalent of siah-hanna, the darkening colour of hanna. Sadi of Shiraz sang that he would give Samarcand and Bokhara for the black (Hindu) mole on a Turkish girl's cheek.

SINAI, a mountain in Arabia, celebrated amongst the followers of the Hebrew, Christian, and Muhammadan religions as that near which the Israelites encamped in their route from Egypt to Palestine. It was from Sinai that Moses proclaimed the Ten Commandments. The Arabs indicate Jabl Tur as the site. The peninsula of Sinai is a triangular tongue of land between the gulfs of Suez and Akaba, comprehended between lat. 27° 40' and 30° N., and long. 30½° and 35° E., and terminating to the south in the apex of Ras Mahomed, where the two gulfs unite in the common channel of the Red Sea. The average length of the peninsula from N. to S. is about 108 miles.

SINA PATI. SANSK. A commander-in-chief; from Sina, an army, Pati, lord or master.

SINAPIS, Mustard.

Khardal, . . . ARAB.	HEB.	Tuverica, . . . SANSK.
Moung ngyin, . . . BURM.		Surai-bij, . . . SIND.
Napu, . . . GR.		Gan-aba, Rata-aba, SINGH.
Saron, Rae, . . . HIND.		Kadaghooh, . . . TAM.
Sarahuf, . . . PERS.		Avaloo, . . . TEL.
Kajika, Sarsinape, SANSK.		

The Sinapis genus of plants belongs to the natural order Cruciferae. There are 40 or 50 species. *S. alba* and *S. nigra*, the white and black mustard, are best known in Europe. Five or six species are cultivated in all parts of India for the sake of the valuable oil their seeds yield. Those most frequently seen are *S. glauca*, *toria*, *racemosa*, *ramosa*, *dichotoma*, and *juncea*.

Sinapis alba, white mustard.

Hu-kai, Peh-lui, . . . CHIN.	Safed raj, . . . HIND.
Hu-lui, . . . „	

White mustard is a native of most countries in the south of Europe. It is cultivated, and when young is eaten as a salad. The seeds yield by expression 36 per cent. of a bright yellow, pleasant tasted edible oil, having a strong smell and slight taste of mustard. The seeds of *S. nigra* yield only 28 per cent. of an oil, but in all respects similar to the above. The oil of this species is used in India in cookery, and is considered superior to all other oils for anointing the body, which it is supposed to invigorate. In medicine it is sometimes given internally, but is more frequently applied as a rubefacient. The best flour of mustard is prepared by crushing the seeds of both black and white mustard between rollers, and then pounding them in mortars, when they are twice sifted to yield pure flour of mustard. Two bushels of black and three of white seed yield, when ground, 145 lbs. of flour; which, to diminish the pungency and improve the colour, is mixed with 56 lbs. of wheat flour and 2 lbs. of turmeric; and the acrimony is restored without the pungency, by the addition of a pound of (capsicum) chilli pods, and half a pound of ginger.

Sinapis dichotoma, Roxb.

Tha-ba-mee, . . . BURM. | Suhota, Sights, . . . HIND.
Toreea, Kallsurson, HIND.

Cultivated in British India. Much prized for its oil.

Sinapis eruca, Taramira, HIND., a kind of mustard, with a red seed somewhat elongate. The oil it produces is used as food and for burning, and as a medicine for cattle and horses. It is called 'assu' in Panjabi.

Sinapis glauca, *Cleghorn*, is found in the Sutlej valley between Rampur and Sungham at elevations up to 11,000 feet, and is much cultivated. Several species of *Sinapis* are grown in the N.W. Himalaya as salads and condiments.

Sinapis juncea.

Khardal, Kubhr, . . . ARAB. | Tse-z-kai, . . . CHIN.

Sinapis juncea and *S. ramosa* are not sown together, but each is cultivated as a mixed crop, with either grain, barley, wheat, or peas.—*Cleghorn's Panjab Reports*, p. 68.

SIND, the name of the Indus river, and of two rivers in Central India. One of these rises at Latouti, on the table-land near Seronj, and, falling into the Chambal river at its junction with the Jumna, forms that sacred spot Triveni, where a shrine has been erected to Siva. The Chot'la or Little Sind rises on the table-land forming the buttress of Malwa, skirting the Nerbadda, and joins the Par. The term is from Sin, an Indo-Scythic or Tatar term, the river Indus being the Aba-Sin or Father Stream.—*Tod in Tr. R.A.S. Soc.* iii. p. 145.

SIND, a province of British India, consists of the lower valley and delta of the Indus, lying between lat. 23° and 28° 40' N., and long. 66° 50' and 71° E. Its area, including the Native State of Khairpur, is 54,123 square miles, and its population in 1881 was 2,537,976. It is bounded on the west by Baluchistan; on its north is Baluchistan, the Panjab, and Bakhawulpur; on the east it has the Rajputana States of Jeysulmir and Jodhpur, and on the south the Arabian Sea and Rann of Cutch. Its sea-coast is that of the delta of the Indus, and extends about 125 miles between Cape Monze on the W. and the Koree mouth,

which is the S.E. entrance and the boundary of Sind. The delta shore is low, flat, and swampy throughout; but west of Kurachee is a high range of mountains terminating in Ras Muari called Ras Mouari and Cape Monze. The contrasts presented by this province are striking. In the central tracts liable to inundation are picturesque-looking villages, with, in the cold season, waving fields, beautiful small lakes, and the land throughout its length and breadth partitioned by numerous canals and irrigation channels; but outside of the fertilized tracts are bare mountains and sandy deserts. Eastward, Sind is bounded by some of the most desert portions of Bahawulpur, Jeysulmir, and Balmir, a dependency of Jodhpur; and the eastern portions of Sind itself, for from ten to sixty miles within the frontier, are desert wastes. Northwards and westwards are rugged ranges of inhospitable stone-heaps, varying in height from 2000 to 5000 feet, where inhabitants, animal life, vegetation, and water are altogether wanting, and divide the province from the territories of the many Baluch clans that compose the State of Kalat. The more habitable part of Sind is a long narrow tract of country yearly fertilized by the inundation of the Indus, with shifting sand-heaps on the east, and bare stony mountains on the west. In the delta of the Indus expansive lakes abound. From the easternmost mouth of the Indus to the Kurachee harbour, nearly the whole coast is a network of channels and marine lagoons, and of sand-banks and mud-banks, more or less covered by each advancing tide. During December and the two succeeding months, the cold at night is often severe, being frequently 32° Fahrenheit at daybreak, while at noon it often mounts to 75° or 86° in the shade.

To the Western Arabs, all eastwards of the Persian Gulf was known as Hind; but they distinguished the two regions on and beyond the Indus river by the term Hind-wa-Sind. The name of Sind is of great antiquity, and is mentioned both by Pliny and Arrian; the one writes it Sindus and the other Sind. Ancient oriental geographers divide the country into two districts, Lar and Siro, a town called Halah, lying a little north of Hyderabad, forming the point where the Lar and Siro frontiers unite.

In the 7th century it was described as comprising four principalities, viz. Upper, Middle, and Lower Sind, and Cutch, their native names being Siro, head or upper, Vichalo or midland, and Lar or lower.

The district of Lar or Lower Sind, the ancient Pitasila, is the delta of the Indus from Hyderabad to the sea.

In the time of Alexander, the only places mentioned are Sindomana, supposed to be the modern Schwan, and a city of Brahmins, named by Diodorus, Harinatelia, which seems to have been the Brahmana city destroyed by an earthquake, A.D. 757. At the present day the principal places in Middle Sind are Schwan, Hala, Hyderabad, and Omankot. Hyderabad is supposed to be the ancient Patala and the Nerunkot of the Middle Ages.

Ptolemy has preserved the names of several places, as Barbara, Sousikana, Bomis, and Kolaka, of which the first is probably the same as the Barbarike emporium of the Periplus, and perhaps also the same as the Barce of Justin. In

the time of the author of the *Periplus*, the capital of Lower Sind was Minnagara, which the foreign merchants reached by ascending the river from Barbarike. In the middle of the 7th century, Hiwen Thsang mentions only Pitasila or Patala.

In the Middle Ages Debal was the chief seaport of Sind, hence called Debal Sindi. It was the emporium of the Indus, and seems to have been situated on the western bank of the Baghan river, below the junction of the southern branch of the Ghara or Sagara branch, five miles to the north of Lari Bandar. Lari Bandar has been deserted, and the present part of the western half of the delta is Dharaja, a few miles east of Lari Bandar. Dewal or Debal means a temple, and several Sind towns had it as a prefix, as Debal Thatta, Debal Kangra. Debal Sindi seems to have been the port at which Zabeida of the Arabian Nights landed from Basra, and found all the people turned into stone.

Debal or Dewal is from Deo, God, Alaya, house = the house of God, a sacred city. Hima-alaya is the snow abode.

Sind was found by Alexander (n.c. 327) well peopled, in a high state of cultivation, under several chiefs. From the time of Alexander till the khalifat of Walid (A.D. 705-715), Sind seems to have been chiefly under Rajputs professing Hinduism. No Buddhist remains have hitherto been observed.

In the early centuries of the Christian era, the Rai dynasty ruled from Kashmir and Kanouj to Makran and the port of Debal on the shores of the Sea of Oman, and from Surat to Kandahar and the Suliman range. The commencement of this dynasty has not been ascertained, but in the time of Rai Diwaj the capital was Alor. He was a powerful chief, who contracted alliances with the rulers of India. He was succeeded by his son, Rai Siharas I. Rai Sihasi was the celebrated son of Rai Siharas, and the next was Siharas II, who reigned 42 years, and was killed in battle. He was a contemporary of Nushirwan. After Siharas II, a Brahman dynasty succeeded. The reign of the Rai dynasty seems to have extended to 137 years.

Several places on the Indus are named after the Chach dynasty, viz. Chachpur, Chachar, Chachgaon, Chachi. Chach was the Brahman who usurped the kingdom of the Rai dynasty of Sind. He was a contemporary of Shahram or Shahrear, and he is supposed to have invented the game of chess. He seems to have reigned about A.H. 2, A.D. 623-24, and to have been succeeded by his brother. In A.H. 93-94, A.D. 711-712, Muhammad Kasim, nephew of the ruling khalif, Walid I., led an army of 15,000 men against the ruler of Sind, raja Daher, who fell in battle before Alor, A.H. 10 Ramzan 93, A.D. 711. Kasim pursued his conquests northwards to Multan. In A.H. 99, A.D. 717, on the invitation of the ruling khalif, Umar-bin-Abdul Aziz, many of the Sind princes adopted Muhammadanism.

After the Ummia khalifs, the Abbassi held Sind until A.D. 1025, when Al Qadar B'illah, the khalifs' viceroy, surrendered it to Mahmud of Ghazni. In the confusion that resulted on Mahmud's death, a Rajput tribe in Sind, called Sammah or Sumera, established themselves, A.D. 1054, and held sway until overthrown by the

Sammah, another Rajput tribe, A.D. 1315. A brief period of changes was followed by the Sammah tribe re-establishing themselves; and in A.D. 1360 Muhammad Taghalaq took Jam Beni, the reigning prince, to Delhi, from whence he was honourably dismissed, and in 1380 adopted Muhammadanism. The Sammah family continued to reign until A.D. 1519-20, when the last prince was dethroned by Shah Beg Arghun, prince of Kandahar. Arghun Khan Tarkhan was grandson of Hulaku Khan, grandson of Chengiz Khan. One of his descendants, Shah Beg Arghun, occupied Siwi, and his troops in December 1514 took the villages of Kakan and Baghban, and returned to Siwi. In December 1520 he defeated the Sammah army, led by Darya Khan, and gave Thatta up to plunder. He resolved to retain Siwisthan north of the Lukhi Hills, of which he took possession after defeating the Sa'ta and Sumera tribes. He subsequently occupied Bakkar, and moved down the river with the object of invading Gujerat, but died at Chhinduka in June 1522. He was succeeded by Mirza Shah Husain Arghun, who defeated a great army near Thatta, composed of the Sind and Sammah races, led on by Jam Firoz. In A.D. 1543, Sind was invaded by the emperor Humayun. Shah Husain died A.D. 1552, at a village 20 cos from Thatta, after a reign of 32 years. Elphinstone says he was drowned in the Indus, and that the Arghun family then became extinct. He was succeeded by Muza Isa Tar Khan (great-grandson of Arghun Khan, grandson of Hulaku Khan, grandson of Chengiz Khan), who, after a comparatively peaceful reign, died A.D. 1566, after a reign of 14 years. His son and successor was Muhammad Baki. There are members of the Tar Khan family still in Sind, and 219,591 in the Panjab.

The last two Asiatic dynasties were the Kullora and Talpur tribes. In the early part of the 18th century, the Kullora, a Sind tribe, took possession of Sind, and were recognised by Nadir Shah or his deputies. The Kullora traced their descent from the Abbasside khalifs, and the Talpuri from Mahomed, but both seem to be Baluch. The Talpuri (Tal or Tar, Borassus flabelliformis or palmyra, and Pura, a town) amount to one-fourth of the population of Hyderabad, which they call Lohri or Little Sind. Previous to the invasion of Nadir Shah, the Kullora, a religious sect, had risen to power in Sind, and the chief of the tribe, Nur Muhammad, had been recognised as governor of the province. During the rule of his brother, Gholam Shah, the connection of the British Government with Sind commenced by the establishment of factories at Thatta and Shah-bunder in 1758. In that year Gholam Shah granted an order for the establishment of the factories and for certain immunities to trade. This order was renewed in 1761; but during the rule of Sirfaraz Khan, the eldest son of Gholam Shah, the trade was so much interfered with, that in 1775 the British withdrew their factories. The violence and tyranny of Sirfaraz Khan and his successors, who from jealousy put to death three of the chiefs of the Talpur tribe, led to the overthrow of the Kullora dynasty. The Talpur chiefs had long held the first place in the service of the rulers of Sind. To avenge the death of their chiefs, the Talpur tribe rose, and, headed by Mir Futeh Ali Khan Talpur,

in A.D. 1786 expelled the Kullora ruler Abdul-Nabbi. The measures which Futteh Ali Khan took to establish his authority alarmed his relatives, Mir Sohrab and Mir Thara, who fled, seized on Khairpur and Shah-bunder, and renounced the authority of their kinsman. Mir Futteh Ali Khan was never again able to extend his authority over the whole province, which henceforth remained divided into three separate principalities, viz. Hyderabad or Lower Sind, under Futteh Ali Khan; Khairpur or Upper Sind, under Mir Sohrab; and Mirpur, under Mir Thara. In Hyderabad, Futteh Ali divided his power with his three brothers, Gholam Ali, Kurm Ali, and Murad Ali, and from their real or apparent unanimity, the brothers received the appellation of the Char Yar, or four friends. In 1799, the commercial intercourse between the British Government and Sind was revived, and Futteh Ali Khan issued an order granting certain privileges in favour of British trade.

Sind fell to the Indian Government, from the Muhammadan Talpur dynasty, after the battles of Hyderabad on the 15th, of Meanee on the 17th February 1843, and of Dubba on the 24th March 1843, all fought by Sir Charles Napier, and this gave to the British the course of the Indus up to Multan. In August 1842, Sir C. Napier had been appointed to the military command in Sind and Baluchistan, and invested with authority over all civil and political officers in these territories. On the 14th February 1843, the Amirs, except Nasir Khan of Khairpur, signed a treaty, leaving Mir Roostum's rights to future investigation. Next day the residence of Major Outram was attacked by 8000 of their troops. After a most gallant defence, the escort made their way to the main army. The battles of Meanee and Dubba subjected the whole of Sind to the British Government, with the exception of the possessions of Ali Murad, who was established as chief of Khairpur, in the territories which belonged to Mir Roostum, both by inheritance and in right of the turband, as well as in the lands of which he himself stood rightfully possessed at the time of the conquest. But a fraud was clearly established by a commission, which met in 1850, and Ali Murad was degraded from the rank of rais of Khairpur, and deprived of all his territories, except those which he inherited under his father's will. The revenue of his possessions in A.D. 1860 was estimated at Rs. 3,50,000, with power to try for capital offences any persons except British subjects. After the conquest, the deposed Amirs were removed from Sind, and pensions were granted them by the British Government.

For British administrative purposes Sind is arranged into the five districts of Kurachee, Hyderabad, Thar and Parkar, Shikarpur, and Upper Sind frontier. The valley is fertilized by the great river, which, like the Ganges, the Irawadi, and the Nile, has an annual rise in the summer months, overflowing its banks and fertilizing the soil to a distance on both sides. Strabo (Geogr. lib. xv.) and Arrian (Hist. Ind. c. 2) compare the delta of the river Indus to that formed by the Nile, and almost every part of the delta has at some time or other formed a channel for the river or one of its many branches. Parts of the territory are almost rainless; the average fall of Sind and Cutch is given by Mr. Blanford at 9·2 inches. Some-

times, indeed, for two or three succeeding years, no rain falls in the province. The N.W. monsoon deluges the Baluchistan hills, but Kurachee, in long. 67° 2' E., is its eastern limit, and the S.W. monsoon ends abruptly at Lakpat Bandar, on the boundary of Cutch. In Upper Sind, the country is diversified. The Lakhi range forms an abrupt escarpment facing the river, 600 feet high. The towns of Sukkur and Rohri overhang the stream, and lying in the river between them is the island fortress of Bukkur with its lofty castellated walls, crowning the range of limestone hills through which the Indus streams. A little to the south of Bukkur is the island of Sad'h Bela, with its sacred shrine. In the Sehwan district is the Manchar lake, formed by an expansion of the Western Nara. During the inundation it measures 20 miles in length, and covers an area of about 180 square miles; while the Eastern Nara, at the same season, forms dandhs or flood lakes. The extreme S.E. border of Sind is formed by the Runn, a salt-water waste, with an area of 7000 square miles. In the Thar and Parkar district, in the eastern portions of Khairpur, and in Rohri subdivision, is the desert, which consists of sand-hills which succeed one another like great waves. The soil of Sind consists of a plastic clay, strongly impregnated with salt. The alluvial strip which borders either bank of the Indus for a distance of 12 miles, is for productiveness the best in Sind, and in places on it are extensive forests of acacia. The exhalations arising from the pools left after the annual inundations give rise to fever.

Religion.—Two-thirds of the population follow Muhammadanism, 17·84 per cent. Hinduism, but all retain their clan designations. These are multitudinous, and many of the tribal names indicate the country from which the first immigrants came, —Syuds from Arabia, Baluch from the mountain region on the west, descendants of slaves from Zanzibar or Abyssinia, with Melman and Khaja of Hindu origin, with Awan, Chuwan, Guda, Nakhuda, and Solang. Burton (pp. 368-69) gives 79 names of Baluch tribes. Other Muhammadans, generally known as Sindi, of whom there are about 300 clans of tribes, are descendants of converts from Hinduism.

Language.—Persian was the language of literature, ceremony, office, and epistolary correspondence. But Sindi, the language of the people, is spoken from the N. boundary of Kattyawar as far north as Bahawalpur, and extends from the hills on the west to the desert which separates Sind from the eastern portion of the Indian Peninsula. There are several dialects of it. It abounds in Arabic words. These in the Urdu constitute the language of the learned men, but in Sindi they are the words in common use for names. Its literature consists of translations of Arabic religious and moral works, and popular traditions in poetry, and the Arabic Nasbhi character is used by the Muhammadans, but the Hindus have a separate written character.

The Sindi is superior to most of the dialects of Western India in various minor points of refinement and cultivation, as, for instance, in the authorized change of terminations in poetical words, the reduplication of final or penultimate letters to assist the rhyme, and many similar signs of elaboration.

Agriculture.—The crops consist of rice, sorghum, *Penicillaria spicata* (spiked millet), Indian corn, and in Upper Sind wheat and barley. The method of clearing water-courses adopted by labourers is peculiar to Sind. They are attended in their work by musicians, and the excitement is kept up by beating drums and blowing horns. Without these they make no progress, but with them the canal-diggers of Sind will do more manual labour than any natives of India. They work uninterruptedly for twelve hours, and use a large hoe (phaorah) with a short handle. The period for clearing the water-courses is the first appearance of a rise in the river (March or April). The seasons for crops in Sind are two, Rabi or spring, and Kharif or autumn, the produce varying in portions of the country. These divisions of the year do not apply to climate, for they hardly exist. Saltpetre abounds in the soil of Sind, particularly the lower country, and is collected in great quantities. In many districts the surface of the land is covered with a saline efflorescence.

The timber trees of Sind are species of *Acacia*, *Albizia lebec*, *Avicennia tomentosa*, *Azaderachta indica*, species of *Capparis*, *Ceriops*, *Cordia*, *Dalbergia*, *Populus Euphratica*, *Prosopis spicigera*, and species of *Tamarix* and *Zizyphus*.

The forests, under the rule of the Amirs, were mere hunting preserves, and were admirably adapted, from the thickness of their underwood, for the cover of wild animals of every sort. No attention whatever was paid to their timber.

In Sind, the grass called Sar, which perhaps is *Arundo karka*, has its culms, sur jo kaneo, made into chairs, and its flower-stalks, beaten to form the fibres called moonyah, are made into string or twine (moonyah jo narce), and into ropes (moonyah jo russa).

Nine-tenths of the Sind vegetation consist of plants which are indigenous in Africa, the desert regions assimilating with that country. At least one-half are common Nubian or Egyptian plants, and a considerable number is common to tropical Africa, and South Arabian and Persian plants also occur largely.

The pasture grasses most relied by horses, cattle, and sheep, are *Cynodon dactylon*, the sweetest and most nutritious of grasses, and abundant everywhere; also *Poa cynosuroides*, *Andropogon involutus*, *Stend*; *Anthistaria ciliata*, *Alopecurus pratensis*, *W*; *Dactylis glomerata*, and *Digitaria sanguinalis*, *P.S.*; with the straw of all the grain grasses and millets.

Amongst other wild animals may be mentioned the Gor-khar or wild ass of the deserts, the *Equus onager* of naturalists.

The river fisheries afford a considerable export trade in dried pullah. Among domestic animals, the camel, of the one-humped variety, ranks first as a beast of burden, immense numbers being bred in the salt marshes of the Indus.

The wool of Sind forms a staple of almost equal importance, though the larger portion of the quantity exported comes, not from the province itself, but from Ferozpur district in the Panjab, and from Afghanistan and Baluchistan.

The spirituous liquors are the gura from molasses, and kuttala from dates; wine called anguri is from the Sind grape; and liqueurs sonfi, mushki, turauji, nusri, gulabi, and kaisari.

It abounds in mineral waters, but the situation of the province and its climate alike preclude the hope of their ever being extensively useful to Europeans, though they might be more employed for sepoys and the people of the country.—*Burton's Scinde*; *Cunningham's India*; *Elliot's India*; *Elphinstone's India*; *Gibson's Forest Reports*; *Ouseley's Travels*; *Pennant's Hindustan*; *David Ross, C.I.E., The Land of the Five Rivers and Sind*; *J. A. Murray, The Plants and Drugs of Sind*.

SINDBAD, well known to Europe as having the history of his voyages incorporated in the *Thousand and One Nights*, but they form in Arabic a distinct and separate work, which Baron Walkenaer (in *Nouvelles Annales des Voyages*, tom. liii. p. 6) regards of equal value with those of Soliman and Abu Said. The voyages belong to the 9th century, when the commerce of the Arabs under the khalifs of Baghdad was at its highest activity. In his first voyage Sindbad reaches the country of the maharaja. This title was given so far back as the 2d century to a Hindu king, whose monarchy is said to have comprised the greater part of Southern India, the Malay Peninsula, Sumatra, and Java in the Indian Archipelago, and whose title continued to be borne afterwards by one of the sovereigns of the disintegrated empire, who reigned over the kingdom of Bijanagar or Vijayanagar. In Sindbad's second voyage mention is made of the kingdom of Riha (the Malay Peninsula according to some), and the manner of the preparation of camphor, produced in the mountain forests there, is accurately described. In the third voyage the island of Silaheth is mentioned. In the fourth he was carried to a country (Malabar) where he found men gathering pepper, and from it he went to the island of Nacous (the Nicobars?) and on to Kela (Quedah or Keydah?). In the fifth voyage he is shipwrecked on the island (i.e. country) of the Old Man of the Sea, probably somewhere on the Konkan coast. Thence he crossed the sea to the Maldives, and back again to the pepper country of Malabar, passing on to the peninsula of Comorin, where he found the aloes-wood, called santy, and afterwards to the pearl fisheries of the Gulf of Manaar, whence he travelled back to Baghdad. In the sixth voyage he visited an island (i.e. country) where were superb trees, of the kinds named santy and comary, and the island of Serendib (Ceylon), which was also the limit of his seventh and last voyage.

SINDHU. India was first known to the Chinese in the time of the emperor Wu-ti of the Han dynasty, in the 2d century before Christ. It was then called Yuan-tu or Yin-tu, that is Hindu and Shintu or Sindhu. At a later date it was named Thian-tu, and this is the form which the historian Mat-wan-lin has adopted. The name Sindhu was taken from the Romans, the Romans from the Greeks, the Greeks from the Persians. In Persian the initial s is changed into h, which initial h was as usual dropped in Greek. It is only in Persian that the country of the Sindhu (Sindhu is the Sanskrit name for river), or of the seven Sindhu, could have been called Hindia or India instead of Sindia. Unless the followers of Zoroaster had pronounced every s like h, we should never have heard of the West Indies. The name of India, i.e. Hoddu, does not occur in the Bible

before the book of Esther, where it is noticed as the limit of the territories of Ahasuerus in the east, as Ethiopia was in the west (i. 1, viii. 9). The names are similarly connected by Herodotus (vii. p. 9). The Hebrew form Hoddu is an abbreviation of Honadu, which is identical with the indigenous names of the river India, Hindu or Sindhu, and again with the ancient name of the country as it appears in the Vendidad, Hapta Hendu. The native form Sindus is noticed by Pliny (vi. p. 23). But though the name of India occurs so seldom in the Old Testament, an active trade was carried on between India and Western Asia. The Tyrians established their depots on the shores of the Persian Gulf, and procured 'horns of ivory,' 'brodered work and rich apparel' (Ezekiel xxvii. 15, 24), by a route which crossed the Arabian desert by land, and then followed the coasts of the Indian Ocean by sea. The trade opened by Solomon with Ophir through the Red Sea chiefly consisted of Indian articles. Alghummim (sandal-wood), kophim (apes), thuccum (peacocks), are words of Indian origin (Humboldt, Kosmos, ii. p. 133), to which we may add the Hebrew names of the topaz, pithah, derived from the Sanskrit pita.—*Muller's Lectures*, p. 215.

SINDHU, a Jat clan in the Panjab. They are steady, good farmers, a sturdy, stalwart people.

SINDIA, the family name and regal title which designate the sovereign whose capital is Gwalior, and who has the title of maharaja. The territories over which the Maharaja Sindia rules form part of what the British term Central India. The Sindia family are Mahrattas, and came from near Satara. Ranaji, the first member of the Sindia family of note (1724), commenced his career as the carrier of the slippers of Balaji Rao, Peshwa. His care in the performance of this menial duty attracted his master's attention, who appointed him to a command in the pagah or bodyguard horse. From this his rise to the first rank of Mahratta chiefs was rapid. He placed himself at the head of several bodies of horse, with which he carried on raids, even into the territory of the emperor of Delhi, and some of the lands he then overran still form part of the appendages of the Gwalior rule. Ranaji's achievements might have perished with him after his death in 1759, had he not been succeeded by a man of still more striking capacity than his own. His youngest son, Mahdaji, although he did not at once succeed to the family jaghir in Malwa, has always been considered his political heir, because it was he who continued the work of establishing the fortunes of the house of Sindia.

Mahdaji Sindia's career had little more than begun when he found a great opportunity for showing the nobility of his character on the fatal plains of Panipat. On that day Mahdaji proved himself the bravest of the brave. The contingents of Holkar and Sindia formed the right wing of the Indian army, but Mulhar Rao left his youthful comrade to bear the brunt of the engagement alone, and the Mahratta forces were utterly defeated. Among the principal consequences of this signal defeat were the accession of Mahdaji to the full title of Sindia, in consequence of the death of all his relatives, and the commencement of a bitter rivalry between him and his neighbour Holkar. The disaster of Panipat, which threatened the family with extinction, was really the main

cause of the after-fame of the house of Sindia, by bringing Mahdaji to the front as its responsible leader. Mahdaji escaped from the battle more by accident than by the fleetness of his steed. Pursued by an Afghan horseman, his tired charger was unable to carry him to a place of safety, and, stumbling over a ditch, the Mahratta chief lay at the mercy of his assailant. The Afghan struck him on the knee with his battle-axe, but was content to retire with the spoil of his personal ornaments and of his horse. Mahdaji escaped with the assistance of a water-carrier, also fleeing from the battle, but he carried the limp to his grave.

The overthrow at Panipat was so complete, that the Mahrattas, who before it had seemed to grasp the empire of Hindustan, were after it obliged for a time to content themselves with a very subsidiary part in its affairs, but Mahdaji endeavoured to regain supremacy. By the aid of Mahdaji's army, the emperor Shah Alam was reinstated on the throne of Delhi, and Rohilkhand was overrun by the Mahratta horsemen.

Mahdaji had, after his return from the north, devoted himself to the task of establishing his authority throughout the possessions he had inherited. But when he had secured his estates, his next thought became how he might turn them into a kingdom. In order to attain his object he formulated a policy of his own, by means of which he hoped to render himself as independent of his own suzerain, the peshwa, as of the Moghul emperor. He reorganized his army, and was the first of his race to train an infantry force, and to employ European officers,—De Boigne, 1784; Colonel Fremont, 1792-93; Major Gardner, 1794; Colonel Perron, 1794; Colonel Drugeon, 1797; Colonel Duprat, 1798; Colonel Sutherland, 1795; Colonel Pohlmann, 1799.

For thirty years he thus made himself the greatest potentate in Central India, and it was during this period that the house of Sindia was first arrayed in arms against the British. The early encounters of this campaign were in his favour. The convention of Wargaum closed a campaign of incapacity, and Mahdaji issued from his first contest with the British with increased reputation. The next campaign, under the conduct of Colonel Goddard, left Mahdaji's position intact, although the capture of Gwalior fort was a rude shock to the self-esteem of native warriors. With the signing of the treaty of Salbye, Mahdaji was again left to prosecute his schemes for establishing his supremacy among the Mahrattas. In 1788 he again entered Delhi to replace the aged Shah Alam on the throne, and five years later he marched on Poona to assert his pre-eminence in the councils of the peshwa. He succeeded in his object, and his prospects were rendered still more brilliant by the intelligence of a decisive victory gained by his troops over his rival Holkar, when his career was suddenly terminated by death in 1794 near Poona. His formidable army, organized under French officers, had made him in reality the ruler of Hindustan, though nominally the servant of the peshwa. He had played a most important part in the struggle which took place for the peshwa's office, after the death of Madho Rao, Bullal. He was the chief support of the party of Nana Farnavis. When peace was concluded with the Mahrattas by the treaty of Salbye in 1781, Sindia was the

mutual guarantee of both powers for its observance. Under the 3d article of this treaty, the right of the British Government to the pargana and town of Baroach was recognised. By this treaty the independent power of Mahdaji Sindia, in his relation to the British Government, was first recognised, but in all other respects he continued ostentatiously to proffer subjection to the peshwa.

Mahdaji Sindia died in 1794, and was succeeded by his grand-nephew Dowlat Rao Sindia. During the distractions which followed on the death of the peshwa Madho Rao Narain, Sindia was able to place Bajji Rao in power. When by the treaty of Bassein the British Government had recovered its influence at Poona, and established a subsidiary force there, Dowlat Rao Sindia entered into a league with the raja of Berar to defeat the objects of the treaty, and he opposed General Wellesley's plan. But in the campaign which followed, the power of Sindia was completely broken, both in Upper and Central India, and he was compelled to sue for peace, and to sign the treaty of Surjee Anjengaum in 1803, by which he was stripped of his territories in Hindustan and south of the Ajunta Hills, with the exception of some hereditary villages, and resigned his claims on his former feudatory rajas with whom the British Government had made treaties. A subsequent treaty was concluded on the 23d November 1805. Sindia, however, countenanced the Pindaras in 1817. The subsequent open defection of the peshwa and the raja of Berar shook the steadfastness of Sindia to his engagements. The strong fortress of Asirgarh was not surrendered as stipulated by the treaty, and it therefore became necessary to reduce it by force. In the captured fort a letter was found in which Sindia directed the governor to obey all orders of the peshwa, who, by attacking the Residency at Poona, had declared war with the British Government. In consequence of this want of good faith, Sindia was required permanently to cede the fort of Asirgarh. Dowlat Rao Sindia died in March 1827. He left no son, and a youth of eleven years, named Moogut Rao, declared to be the nearest relation of Dowlat Rao, was adopted, was married to the granddaughter of Dowlat Rao by Baiza Bai, and was placed in power, with the title of Ali Jah Jankoji Rao Sindia, under the regency of Baiza Bai. Baiza Bai acknowledged this succession most reluctantly, and maintained that it was her late husband's intention that she should hold the regency during her life. The rule of maharaja Jankoji Sindia was very weak. Although the Baiza Bai had no strong party within Gwalior territories, she did not cease to intrigue and to use freely for this purpose a sum of Rs. 37,00,000, which she had been awarded as her private property. Jankoji Sindia died on 7th February 1843. He had no children. Tara Rani, however, the maharaja's widow, a young girl of twelve years of age, with the concurrence of the chiefs of the state and the army, adopted Bugeerut Rao, son of Hunwunt Rao, usually called Babaji Sindia, the nearest, though a very distant, relative of the maharaja, and the adoption was recognised by the British Government. The boy was then about eight years of age. He assumed the title of Ali Jah Jyoti Rao Sindia. The Mama Sahib,

who appeared to possess the greatest influence, and was attached to British interests, was chosen by the chiefs as regent. But troubles again arose through the instigations of Dada Khazji Wala, who was at length delivered up. An interview was agreed upon between the governor-general and the maharaja, which was to take place at Hingooa on 26th December 1843, but the maharani and her son were held in restraint by the mutinous troops, and on the 29th December, when the British army was taking up its advanced ground, it was fired on by the Gwalior troops. The battles of Maharajpur and Punniar were fought the same day, and ended in the total defeat of the Gwalior army, and the conclusion of a treaty, by which it was agreed that territory yielding 18 lakhs a year should be ceded to the British Government for the maintenance of a contingent force, and other lands for the payment of the debts of the state to the British Government, and expenses of the war; that the army should be reduced to 6000 cavalry, 3000 infantry, and 200 gunners, with 32 guns; that the government during the minority should be conducted according to the advice of the British Resident; and that the just territorial rights of the Gwalior State should be maintained by the British Government. From that time till the rebellion and revolt of 1857 there was little change in the relations of the British Government with the Gwalior State. By the mutiny of the Contingent in June 1857, the Political Agent was forced to quit Gwalior. In June 1858 the maharaja was deserted by his troops on the approach of the rebels under Tantia Topee. He and his minister were compelled to flee to Agra. On 19th June, Gwalior was retaken by Sir Hugh Rose's force, and the maharaja was re-established in his palace. From that date the confidence of the maharaja was entirely withdrawn from his minister, to whom he conceived an intense dislike. Dinkur Rao was at last removed from office in December 1859, and Balaji Chimnaji was appointed in his stead, with the concurrence of the British Government. Since that time the maharaja has himself superintended the whole of his affairs. For his services during the mutinies, Sindia received a sunnud conferring on him the right of adoption. He was also informed that lands yielding three lakhs of rupees a year would be added to his territories; that permission would be given to him to raise his infantry from 3000 to 5000 men, and his artillery from 32 to 36 guns; that the arrears due to the British Government on account of the deficiency in revenues of the districts assigned under the treaty of 1844 would be remitted, and that no payments would in future be claimed should these revenues fall short of 18 lakhs; and the annual payment of 10,000 rupees out of the revenues of Burwa Saugor in the Jhansi district would be hereditary. These modifications of the treaty of 1844 were embodied in a new treaty concluded on 12th December 1860. The raja of Amjhara, tributary to Sindia, paid annually to the Gwalior State a tribute of 35,000 rupees, under an engagement mediated by the British Government. This tribute was part of the sums assigned in 1844 for the payment of the Contingent, and is now payable by Sindia to the British Government under the treaty of 1860. Besides this, the maharaja contributes 20,000 Hallee

rupees towards the payment of the Malwa Bhil corps. Formerly Sindia contributed only 8000 rupees to this corps, and the raja of Amjhara contributed 4000 rupees. But when Amjhara was confiscated and made over to Sindia in consequence of the rebellion of the raja in 1857, it was made subject to a payment of 20,000 rupees, no further contribution being required on account of Gwalior. Including the cessions to Sindia under the treaty of 1860, the territories of the Gwalior State are estimated to contain a population of about 2,500,000 souls, and to yield a revenue of 93,09,102 rupees, of which 78,38,900 rupees are derived from the land-tax, 14,70,202 rupees from customs, and the rest from the tributes of feudatories. After the capture of Gwalior by the force under Sir Hugh Rose in 1858, the fort of Gwalior continued to be held by British troops. During the negotiations, however, which ended in the treaty of 12th December 1860, Lord Canning promised that the fort should be restored to Sindia, when this could with safety be done. It was, however, finally decided in 1864 that the cantonment of Morar should be maintained, and it therefore became necessary that the Gwalior fort should continue to be garrisoned by British troops.—*Treaties, Engagements, and Sunnuds; Annals of Indian Administration; Friend of India*, October 1868.

SIND-SAGUR, a doab of the Panjab. Its population are chiefly Muhammadans. They are a fine hardy race, with long flowing beards and large turbands. The barda of the Kheechee relate that all Sind-Sagur formerly belonged to them.—*Rajasthan*, i. p. 233.

SING. No nation is more closely united by the ties of clanship, which they designate by the word sing, than the Chinese. All the many millions are divided into rather more than 400 sing; those who belong to the same sing consider each other as relations, descended from the same ancestor, and bound in duty to lend mutual help. This excellent custom degenerates frequently into that exclusive partiality which is so repugnant to the spirit of true philanthropy. One sing is opposed to the other, one clan oppresses the other; they proceed even so far as to engage in open hostilities. The ties of nearer relationship are still closer. A Chinese is taught by his sages to love his relations.—*Gutzlaff's Chinese History*, i. p. 207.

SINGALLY and Sozille are the maws or sounds of two fishes, and largely exported from Calcutta.

SINGAPORE ISLAND, at the southern extremity of the Malay Peninsula, in lat. 1° 17' N., and long. 103° 50' E., is separated from the continent by a narrow strait, in some places less than a mile in width. Singapore was first settled in A.D. 1160 by Sri Sura Bawana, and from an inscription, now destroyed, on a sandstone rock on a narrow point to the left of the entrance of the Singapore river, it would appear that raja Suran of Amdan Nagara, after conquering the state of Johore with his Kling troops, proceeded to Tamak about A.D. 1201, returned to Kling, and left this stone monument.

The island consists of a number of low hills and ridges, with narrow and rather swampy flats intervening. In several places the sea-face is elevated,

but the greater portion of the circumference is fringed by a pretty deep belt of mangrove forest. Bukit Timah is a granitic hill about 530 feet high, but the rest of the island is composed of sedimentary rocks, amongst which sandstone occupies a prominent place. Government Hill is about 160 feet high. The Bukit Timah is in the centre of the island.

During the administration of Sir Stamford Raffles, on the 6th February 1819, for a sum of 60,000 dollars, and a yearly stipend of 24,000 dollars for life, the sultan of Johore made over the island of Singapore to the British, and it was finally ceded by treaty on 2d August 1824 to the British by the sultan.

The island is 25 miles in length, and about a third of that distance in breadth, has an area of 206 square miles (1,423,000 acres), and a population (at the census 3d April 1882) of 139,208.

The total imports and exports (in dollars) during the last decade were as follows:—

Imports.		Exports.	
1870,	39,058,564	31,731,022	1876, 45,466,070
1871,	36,766,530	32,003,807	1877, 49,327,317
1872,	43,415,383	39,020,121	1878, 47,259,337
1873,	47,880,090	41,752,145	1879, 56,278,202
1874,	46,887,070	41,508,798	1880, 60,675,733
1875,	43,766,201	41,619,519	1881, 70,699,682
			58,001,188

In Singapore free port, the only charges are the Straits light dues, which are 1 anna or 2½ cents per registered ton on merchant vessels. All national ships are free of this also. In Singapore, measures of capacity are rarely used, and these only with certain articles, such as tobacco, etc.

16 tael make 1 catty = 1 lb. 5 oz. 5½ grs., or 1¼ lb. avoirdupois.

100 catties make 1 (Chinese) pikul = 133½ lbs. avoirdupois.

40 (Chinese) pikuls make 1 royan.

2 (Malay) pikuls make 1 char.

The Malay catty weighs 24 Spanish dollars. The Chinese catty weighs 22½ Spanish dollars. Rice is sold by the royan of 40 pikuls. The native merchants buy imported produce from the islands by the Malay pikul, but sell it by the Chinese pikul. Singapore timber is conveyed in huge rafts, 500 or 600 feet long and 60 or 70 feet broad, with atap-leaved houses on the top; each raft containing about 2000 logs, bound together by rattan rope.

SINGASUN is the ancient term for the Hindu throne, signifying 'the lion-seat.' Charun bards, who are all maharajas, 'great princes,' by courtesy, have their seats of the hide of the lion, tiger, panther, or black antelope.—*Rajasthan*, i. p. 293.

SINGAURGARH, hill fort in the Central Provinces, situated in lat. 23° 32' 30" N., and long. 79° 47' E., 26 miles N.W. of Jabulpur city. It is on a high hill, commanding the narrow Sangrampur valley. It was founded by raja Bel, a Chandela Rajput; it was enlarged by raja Dolpat Sa of Garha-Mandla, who made it the seat of government about 1540. It was the scene of the defeat of Rani Durgavati by Asaf Khan, an officer of Akbar; and the fort stood a siege of nine months in the days of Aurangzeb.—*Imp. Gaz.*

SINGBHUM, a British district in Bengal, lying between lat. 21° 59' and 22° 58' N., and between long. 85° 2' and 86° 56' E.; area, 8897 square miles; population, 922,896. The district forms the S.E. portion of the Chutia Nagpur

division. It is made up of the Government estate of Kolhan or Ho-desam, the fiscal division of Dhalbhum, and the political estates of Parahat, Saraikala, and Kharsawan.

The central portion of Singbhum consists of a long, undulating tract of country, running east and west, and enclosed by great hill ranges. The Ho or Larka Kol would not allow any strangers to settle in or even pass through the Kolhan, and pilgrims to Jagannath had to make a circuit of several days' journey to avoid it. Among aboriginal tribes, the most numerous are the Kol, 150,925 in 1872; Santal, 51,132; Bhumij, 37,253; and the Bhuia, 12,078. The bulk of the Kol enumerated above are Ho, otherwise called Larka or 'fighting' Kol. Physically, the Singbhum Ho are the finest of all the Kolarian tribes. The men average 5 feet 5 or 6 inches in height, the women 5 feet 2 inches; and both men and women are noticeable for their fine erect carriage, and long, free stride. Even wealthy men move about all but naked as proudly as if they were clad in purple and fine linen. The Ho are fair marksmen with the bow and arrow, and great sportsmen. They are a purely agricultural people, and their festivals are all connected with that pursuit. Brahmins in Singbhum in 1872, 4098; Khandait, 2255; Rajputs, 1718; pastoral Gola, 34,987; Tanti, or weavers, 20,758; and Kurmi, cultivators, 19,667.

In Singbhum, occasionally, in the markets, a young man will pounce on a girl and carry her off by force, his friends covering the retreat. In 1857 the raja of Parahat joined in the rebellion, many of the Larka Kol following him. A Christian mission went to Chutia Nagpur in 1845, and has made much progress amongst the Dhangar race.—*Dalton*, pp. 163, 181; *Imp. Gaz.*

SINGH, from Sin'h or Sinha, a lion; a title borne by several military castes of Northern India, by Rajputs, by Brahmans, and likewise by Sikhs of Jat race when following the military profession. When a Manjhi Singh dies, leaving no male offspring, his brothers or his nephews of the full blood assume the right of succession, to which the widows become competitors. According to the Shastras (if they may be considered applicable to public property and chiefships), the prior title of the widows is held; but the Sikhs, with a view to avoid an open and direct violation of a known law, have a custom, termed Kurawa or Chadardalna, which obtains in every family with the exception of those of the Bhai: the eldest surviving brother of the deceased places a white robe over, and the nat'h or ring in the nose of the widow, which ceremony constitutes her his wife.—*Steinbach's Panjab*, p. 79; *Wilson*.

SINGHALESE, the general term in use to designate the inhabitants of Ceylon, and also the Ceylon language. The population comprises Europeans and persons of mixed descent, with the Burgher of pure Dutch descent, also Tamil or Dravida, Rhodia, Chalia, Veddah, Kandyan, and Gattaru. See Ceylon; India.

SINGHANA, town in Jeypore State, Rajputana, situated in lat. 28° 5' N., and long. 76° 44' E., 95 miles S.W. of Dehli and 80 miles north of Jeypore city. A rocky hill, 2 miles S.E. of the town, contains abundance of copper ore of a poor quality, yielding from 2 to 7 per cent. of metal.—*Imp. Gaz.*

SINGPHO, an uncivilised tribe occupying the hills bordering the extreme eastern frontier of Assam. They entered the Assam valley from Burma about A.D. 1773, and are now settled in the tract in lat. 26° and 27° N., and long. 96° E. Colonel Dalton says they are known to the Burmese as Ka-Ku and Ka-Khyen, but that on entering Assam they called themselves Singpho, which in their language means man. They occupy both the north and the south of the Patkoi mountain, and are near the Hukong valley or Pavendwen, 1000 feet above the sea. Another body, the Mirip Singpho, dwell farther east, in long. 97° E., between the Shooay-doung-gyee and the Irawadi, and near them, near the Hukong valley, are the amber mines, 1000 feet above the sea-level, in lat. 26° 20' N., and long. 96° E. Their first settlements in Assam were on the Tengapran, E. of Sadiya, and on the Bori Dihang river in Namrup, under their chiefs called Gani, La, and Thu or Du. They are a fine athletic Mongoloid, olive-yellow coloured race, above the usual standard, capable of enduring great fatigue, but addicted to opium and spirits; hair abundant; fond of amber ear ornaments and of the deo-manii (god-bead), a bright-coloured bead. The men tattoo their lower limbs, and the married women from the ankles to the knees. They are polygamists. They bury their dead until decomposed, and afterwards the bones are placed in a coffin and decked out. On the demise of a parent, the eldest son takes the landed property and the youngest son the personal property, the intermediate sons remaining with their eldest brother.

The principal tribes on the frontier of Upper Assam are the Muttuk, the Khamti, and the Singpho. The Bur Senaputti, or chief of the Muttuk branch of the Singpho, entered into an engagement in May 1826, whereby he acknowledged the supremacy of the British, and bound himself to supply 300 soldiers in time of war. The management of the country was left in his own hands, except as regards capital offences. In January 1836 the obligation to supply troops was commuted to a money payment of Rs. 1800 a year. In 1826, similar agreements were made with the Khamti chief of Sadiya, but in 1839 they attacked the town of Sadiya, and many persons, as also Colonel White, the political agent, were slain. Agreements were also made in May 1836 with the Singpho. These tribes were implicated in the Khamti rising in 1839, but they were allowed to surrender under conditions. Many of the Singpho clans have become extinct, and the main body have left Assam for Hukong in Upper Burma.

SINHACHALAM, a temple in the Vizagapatam district of the Madras Presidency, in lat. 17° 46' N., and long. 83° 11' 8" E. It is on a hill (800 feet above sea-level), 6 miles N.W. of Vizagapatam town. The shrine is in a wooded glen, containing springs and beautiful cascades. It is dedicated to the lion incarnation of Vishnu, and held in great veneration. It is believed to have been built by the Gajapati kings of Orissa about the 13th century A.D.—*Imp. Gaz.*

SINHALA, a Buddhist king, of whose coronation a representation occurs in the caves of Ajanta.

SINHASANA, or Lion Seat, the throne on which a sitting Buddha is figured. When the

Mahayana sect became popular, other beings were associated with the Indras, Bodhisatwas, Padmapani, Manjari. In Hindu temples the sinhasan or throne is very handsome; the usual supporters are the sinha, or lions rampant, trampling on elephants couchant, and ridden by amazons armed with shields and swords. It was applied particularly to the throne of the Chalukya dynasty whilst ruling at Kalian, and literally means the lion's seat.

SINHASANA DWATRINSATIKA, or the Thirty-two Stories of the Speaking Statues; stories which were related by the female statues forming the pedestal of a throne belonging to the renowned Vikramaditya, king of Ujjain. They refer to Bhoj, a king of Ujjain, who obtained possession of a valuable throne, but when he attempted to sit on it the statues met him with uncontrollable laughter, and on his asking why they laughed, one of them related the story of king Vikram, how the throne was given to Vikram by raja Bahu Bul, and the other statues followed by other stories.

SIN-HOA, the country named Aurea Chersonesus of the great geographer Ptolemy, has been shown by D'Anville to be the Malay Peninsula, and his Sin-hoa the western part of Cochinchina.—*Ind. in the 15th Cent.*

SINTOH. CHIN. A gigantic creeping plant which grows spontaneously, extensively used both by natives and Europeans in making a lye or wash for the hair, which it is said to clean and strengthen in a remarkable degree.

SIN-TU or Sin-to or Shin-to, the state religion in Japan, but its followers are much less numerous than the Buddhists; the term is derived from Sin, the gods, and Tu, faith. The priests of the Buddhist religion use the Chinese language in their worship, except in their poetry, which is in the Japanese tongue. The Sin-tu religion, like the old pagan religion of Europe, consists of an apotheosis of all great heroes or saints, amongst whom the Japanese include Buddha, which explains the great consideration shown by the various sects there. Sin-tu temples have as gods the emperors, empress, the gods of the sea (kami), and a round mirror is a sacred emblem.—*Sir J. E. Reed.*

SIPAH. HIND., PERS., TURK. A spy or foot soldier, from Persian Sipah, an army; and hence the words Sipah-salar, commander-in-chief; Sipah-dar, etc. Under the emperor Akbar, the Sipah-salar was a viceroy of a subah or province, from which, in Akbar's time, he was given the designation of Subahdar. The Dewan was a revenue officer under the Subahdar.

SI-PAIT, MALAY, meaning 'bitter wood,' is the root of a tree of Sarawak. In substance, appearance, and lightness it precisely resembles the plye; but while plye is tasteless, si-pait is very bitter to the taste. Pait, in Malay, means bitter.—*Low's Sarawak.*

SIPAL, a name of the Bhotia race occupying Sibu in Darma, in the N.W. Himalaya.

SIPATA or Sih-patt. HIND. A woman's veil or wrapper, formed of three pieces sewn together.

SIPHONESTEGIA CHINENSIS. *Tatarinov.* A plant of Ho-nan and other parts of China. It has square stems, topped with the deliscent fruit, containing millet-like seeds, useful in fluxes.—*Smith.*

SIPHONIA ELASTICA, common in the forests

of Guiana and Brazil, and has been introduced into the E. and W. Indies. Condamine frequently mentions it in his Voyage down the Amazon. Caoutchouc is the milky juice of the plant, which exudes on incisions being made, and solidifies on exposure to the air.—*Eng. Cyc.*

SIR, also Sar. HIND. The head. Hence Sardar, a chief; Sir-pesh, a forehead jewel; Sir-kar, a government, a superintendent; Sar-posh, a cover. Sar-band, or head-binder, becomes with the Turks turband. Sir, in Pushtu, a peak.

SIRA, a municipal town in the Tumkur district of Mysore, in lat. 13° 44' 43" N., and long. 76° 57' 16" E. A large proportion of the inhabitants are Kurubar, who manufacture cumblis or coarse blankets.

SIRAF. ARAB., HIND., PERS. A banker, a money dealer, a cashier. It is from the Arabic.

STRAJGANJ, a town in the Pabna district, Bengal, and the most important river mart in the province. It is situated near the Jamuna or main stream of the Brahmaputra, in lat. 24° 26' 58" N., and long. 89° 47' 5" E. It formerly stood upon the bank of the Jamuna; but in 1848 an excessive flood of the river washed the entire town away. The traders thereupon retreated some 5 miles backward to the new bank. Scarcely a warehouse stands on the river's brink, nor a tree to afford shelter. Large boats and flats lie anchored in mid-stream; fleets of smaller craft take shelter in the natural bends of the river; while the merchants and brokers move to and fro in light dinghies, to conduct their transactions on the spot. The principal native merchants are Marwari, locally known as Kaya, who are immigrants from Rajputana. They are described as honest, frugal, and diligent, but quite uneducated.—*Imp. Gaz.*

SIRAT. ARAB. In Muhammadan belief, a bridge over which all must pass on the day of judgment. It is said to extend over the midst of hell, and to be sharper than the edge of a sword. In moving along on it the feet of the infidel will slip, and he will fall into hell fire, but the feet of the Muslim will be firm, and carry him safe into paradise. See Bridge.

SIRENIA. Zeiren, Gr. Herbivorous cetacea, a sub-order of the Cetaceae, as under:—

ORDER. Cetaceae, Whale tribe. 2 fam., 8 gen., 21 sp., viz.—

Fam. Delphinidae, 5 gen., 14 sp., porpoises; Delphinus, 8 sp.; Steno, 2 sp.; Neomeris, 1 sp.; Platanista, 2 sp.; Globiocephalus, 1 sp.

Fam. Balenidae, whales, 4 gen., 7 sp.; Balenoptera, 1 sp.; Balena, 4 sp.; Physeter, 1 sp.; Phocæna, 1 sp.

SUB-ORDER. Sirenia, herbivorous cetacea. Gen. Halicore, 3 sp.

SIRGUJA, a mountainous tract rising 600 to 700 feet above the level of Chutia Nagpur. Chutia Nagpur is the country on the eastern part of the extensive plateau of Central India, on which the Koel, the Subunreka, the Damuda, and other rivers have their sources. It extends into Sirguja, and forms what is called the Upar-ghat or highland of Jashpur, and it is connected by a continuous chain of hills with the Vindhyan and Kymor ranges, from which flow affluents of the Ganges, and with the highlands of Amarkantak, on which are the sources of the Nerbadda. The plateau averages 2000 to 3000 feet above the level of the sea, with an area of about 7000 square miles. It is on all sides difficult of access. It is

a well-wooded, undulating country, diversified by ranges of hills, and has a genial climate. The population in 1866 was estimated at about a million, and is formed of a number of non-Aryan tribes who had fallen back to that refuge from the plains, more than half of them being the race known to Europeans as Kol. There are 21 mahals which form the S.W. frontier, and which may be thus classified:—

The Sumbulpur Group.

Sumbulpur proper.	Sukti.	Bamra.
Burgarh.	Gangpoore.	Mehra Cole.
Raigarh.	Sarunghur.	Sonepore.
	Bunnie.	

The Patna Group.

Patna proper.	Bora Samur.	Bindra Nowa
Phuljhar.	Khurair.	garh.

The Sirguja Group.

Sirguja proper.	Udaipur.	Chang Bahar.
Jashpur.	Korea.	

Singbhum.

The territories comprised in the Sumbulpur and Patna groups were ceded to the British Indian Government by the treaty of 1803 with Ragoji Bhonsla. They were all, except Raigarh, restored in 1806, but finally reverted to the British in 1826. The Sumbulpur and Patna groups are in the circle of the Cuttack Tributary Mahals. Singbhum was never Mahratta, and in 1857 its chief, the raja of Purahat, joined in the rebellion, many of the Larka Kol following him. The territories forming the Sirguja group were ceded in 1817, and in 1818 the British Government sent a superintendent to Sirguja to restore order in the country, which had become distracted by domestic feuds. In 1820 and 1825, engagements were made with the chief of Sirguja. In 1819 engagements were also taken from the chiefs of Jashpur and Korea, of which latter state Chang Bahar was then a feudal dependency; but in 1848 separate settlements were made with Korea and Chang Bahar. The Sirguja mountains are in length 90 miles, breadth 85 miles, and lie between lat. 22° 34' and 24° 54' N., and long. 82° 40' and 84° 6' E. Sirguja is rugged and mountainous, from 500 to 600 feet above the adjoining table-land of Chutia Nagpur. Drained by the rivers Kunher and Rhera, with its feeder. — *Major Dalton, Annals of Indian Administration; Aitchison's Treaties, etc.* See Kol; Saont; Singbhum.

SIRHAN RIVER, in Hazara district, Panjab, a tributary of the Indus. Rises at the head of the Bhogarmang glen, in lat. 34° 46' N., long. 73° 19' E. Abounds in fish, especially the mahsir. The Pakhli Swathis call the Sirhan their female slave, as it irrigates their fields, grinds their corn, husks their rice, and cleans their cotton. Numerous mills line the bank.—*Imp. Gaz.*

SIRHIND, the capital of a province of that name, is now a town in the state of Patiala. Its gardens are described by Abul Fazl as laid out by Hafiz Rahmat, a grandee of Humayun's court. Thanesar in Sirhind, on the route from Kurnool to Ludhiana, was the object of one of Mahmud of Ghazni's iconoclastic expeditions. It is still surrounded by a ruined wall evidently once of considerable height, connected with which is a dilapidated fort with numerous towers. Sirhind province consists of the north-east portion of the plain which intervenes between the rivers Jumna and Sutlej. It includes the British districts of

Ambala, Ludhiana, and Ferozpur, together with the Native States of Patiala, Jheend, and Nabha. This tract comprises the whole watershed of the now deserted stream which once formed the great river Saraswati. In 1882, during the administration of the Marquis of Ripon, a canal was completed designed to irrigate 2500 square miles, 750,000 acres of thirsty soil. It passes through the territory of several native chiefs, as well as through what is directly under British administration. They all gave active co-operation, ranging themselves alongside of the Imperial Government in the efforts it makes for the amelioration of the poverty that presses with terrible severity upon large classes of the Indian populations. The total length of the canal was 502 statute miles; and when the works were completed, 2500 miles of channel were to be maintained. The canal designed to irrigate, through branches, 522,000 acres in British and 261,000 acres in Native States. The total cost was estimated at 407 lakhs, of which 278 lakhs were being defrayed by the British Government, and 129 lakhs by the Native States.—*Cal. Rev.*, Jan. 1871.

SIRI, Sri, or Siris was one of the principal deities of Arabian and Ethiopian theologies. Deodorus says the Greeks prefixed an O, and made it Osiris.

SIRI, the ancient name of Dehli, prior to its capture in A.H. 587, A.D. 1191.—*Prim. Ind. Ant.* p. 326.

SIRI. MALAY. Betel leaf, leaf of the piper betel. Amongst the Malay chiefs, the siri boxes are in forms indicative of the ranks of their respective owners. At the Great Exhibition of 1861 were exhibited those of the sultan of Linga, of the raja Muda or heir-apparent, of the Bindahara or treasurer, and of the Tamnangung, the minister of war and police.

SIRIKUL, a lake 15,000 feet above the sea, on the Panir plateau, discovered in 1838 by Lieutenant Wood to be the source of the chief branches of the Oxus. It is about 14 miles long by 1 in breadth. The surrounding mountains are covered by perpetual snow.—*Tr. C. As.*

SIRIPUL, a town in Afghan Turkestan, 100 miles S.W. of Balkh, with about 18,000 souls, in houses and tents, mostly Uzbek. The chief is an Uzbek.—*MacGregor*, p. 645.

SIR-KAP, part of Taxila. Hatial is a strong fortified position on the west end of a spur of the Margala range, and immediately to the north-east of the Bir mound, from which it is separated by the Tabra Nala. The fortified city of Sir-kap is situated on a large level mound immediately at the north foot of Hatial, of which it really forms a part, as its walls are joined to those of the Kot or citadel.—*Cunningham's India*, p. 115.

SIRKELE, the minister of the Puducottah State, ruled over by the Tondaman raja.

SIRKI and Kanna, stems of Saccharum munja and of Saccharum sara; also thatch made of the tapering top of the flower-stalk of munj grass.

SIR KOTAHIA. HIND. Level land; sir cultivation, on the plains, means the land that a man retains for his own individual cultivation.

SIRMUR, one of the Sub-Himalayan hill states, under the government of the Panjab, frequently called Nahan, from the name of the chief town. In 1803, the country was brought into subjection by the Gurkhas, who in turn were expelled in

1815 by the British under Sir David Ochterlony. The height of the trigonometrical station on the Chur mountain on the northern frontier is 11,982 feet, and that of the confluence of the Giri and Jumna on the southern frontier about 1600 feet above sea-level. The Raja Ban forest yields much sal timber. A sportsman finds difficulty in making his way through them in search of wild elephants, tigers, leopards, bears, and hyænas, with which they abound. Wild pea-fowl abound, and are sacred. The Kanet, a Rajput tribe, are 60 per cent. of the population; they purchase their wives, and widows re-marry. In recognition of the services rendered by raja Shamahir Purgass during the mutiny, he received a khillat of Rs. 5000 and a salute of seven guns. Population, 75,595; revenue, 1 lakh. The raja is bound to render feudal service. Some women are to be seen delicate in form and feature, but to the northward the female countenance is generally good-humoured, but the form coarse.—*Fraser's Himalayan Mountains*, p. 205.

SIRNA, sanctuary. In all ages and countries the rights of sanctuary have been admitted, and however they may be abused, their institution sprang from humane motives. To check the impulse of revenge and to shelter the weak from oppression are noble objects, and the surest test of a nation's independence is the extent to which they are carried. From the remotest times sirna has been the most valued privilege of the Rajputs, the lowest of whom deems his house a refuge against the most powerful. When Moses, after the Exodus, made a division of the lands of Canaan amongst the Israelites, and appointed six cities to be the refuge of him who had slain unwittingly, from the avenger of blood, the intention was not to afford facilities for eluding justice, but to check the hasty impulse of revenge; for the slayer was only to be protected until he stood before the congregation for judgment, or until the death of the high priest, which event appears to have been considered as the termination of revenge. In India the infraction of political sanctuary (sirna torna) often gave rise to the most inveterate feuds, and its abuse by the priests was highly prejudicial to society. Moses limited priestly interference, by appointing but six cities of refuge to the whole Levite tribe; but the rana of Mewar assigned more to one shrine than the entire possession of that branch of the Israelites, who had but 42 cities, while the god Kaniya had 46. The motive of sanctuary in Rajasthan may have been originally the same as that of Moses, but the privilege was abused, and the most notorious criminals deemed the temple their best safeguard. Yet some princes were hardly enough to violate, though indirectly, the sacred sirna. Zalim Singh of Kotah, a zealot in all the observances of religion, though he would not demand the culprit, or sacrilegiously drag him from the altar, forced him thence by prohibiting the admission of food, and threatening to build up the door of the temple; and the Greeks evaded the laws, and compelled the criminal's surrender by kindling fires around the sanctuary. There was an ancient law of Athens by which he who committed 'chance-medley' should fly the country for a year, during which his relatives made satisfaction to the relatives of the deceased. The Greeks had asyls for every description of criminals, which could not be

violated without infamy; but Gibbon gives a memorable instance of disregard to the sanctuary of St. Julian in Auvergne, by the soldiers of the Frank king Theodoric, who divided the spoils of the altar, and made the priests captives, an impiety unsanctioned by the son of Clovis, and punished by the death of the offenders, the restoration of the plunder, and the extension of the right of sanctuary five miles around the sepulchre of the holy martyr. Within the sacred bounds of Mount Abu was the sanctuary (sirna) of Kaniya, where the criminal was free from pursuit.—*Tod's Rajasthan*, i. pp. 523, 526, ii. pp. 378, 551. See Bast; Sanctuary.

SIROCCO. The sirocco wind in the Mediterranean has little effect on the healthy, but the weak and diseased are materially injured by its depressing influence. The term has an Arabic origin, from Sharq, the east wind.

SIROHI, a Native State in Rajputana, lying between lat. 24° 22' and 25° 16' N., and long. 72° 22' and 73° 18' E. Area, 3000 square miles; population, 153,000. The Banas, rising in the Aravalli Hills, flows through the State into Gujarat, and after passing the cantonment of Deesa, is finally lost in the Runn of Cutch. The people comprise the Banya and Mahajan clans of the Oswal and Porewal, following the Jain faith. The Rajputs are the dominant race, their sects or clans are Deora, Chauhan, Sesodia, and Rahtor. But Kalbi, Rebari, and Dher are numerous; and also aboriginal Bhil, Grassia, and Mina. Grassia are principally in the bhakar or hilly tract in the S.E. corner of the Sirohi. They claim to be the descendants of Rajputs married to Bhil women. There are some Koli, who are believed to have immigrated from Gujarat. Rao Sheo Singh, with whom the British Government concluded a treaty in 1812, was called to power, in 1818, by the unanimous voice of the chiefs, who had deposed and imprisoned his elder brother Oudeybhan-ji for tyranny and oppression. Maharaja Man Singh of Jodhpur, who laid claim to supremacy over Sirohi, sent a force in 1819 to liberate Oudeybhan-ji, but he failed; and Oudeybhan-ji continued in confinement till his death, without children, in 1847. During the disturbances incident on the Jodhpur invasion, Rao Sheo Singh craved the protection of the British Government. The rao made over to the British Government, in 1845, some lands on Mount Abu for the establishment of a sanatorium, but fettered by the condition that no kine should be killed. On several occasions he was requested to cancel this condition, but he always refused. The rao did good service in the mutinies, in consideration of which he received a remission of half his tribute, which had been fixed at Rs. 15,000, to Rs. 7500; he also received the right of adoption and a salute of 15 guns. In 1868 it was discovered that both in Sirohi and in Marwar the practice of Samadh, or burying alive, prevailed to a considerable extent, but confined almost entirely to persons in the last stage of leprosy, by whom it was practised to put an end to their sufferings. His Highness issued a proclamation declaring that Samadh was forbidden, and that any one assisting at any case in future would be liable to imprisonment extending to ten years, and that the jagirdar on whose estate it took place would be liable to the same punishment, and the forfeiture of his estate; and any raj official,

through whose culpable neglect a case might occur, would also incur the same liability.—*Treaties*, iv. p. 157.

SIRONCHA, lat. 18° 51' N., and long. 80° 1' E., in the Central Provinces, is the headquarters station of the Upper Godavery district, pleasantly situated on the left bank of the Pranhita, two miles above its confluence with the Godavery, and 120 miles S.E. of Chanda, the nearest station of the Central Provinces. It is 520 feet above the sea-level according to the topographical survey maps. 40 miles above Sironcha occurs what is known as the third barrier.

SIROPA, the Rajput term for a khillat or robe of honour; properly *Sir-a-pa* (from head, *Sir*, to foot, *Pa*), and means a complete dress; in short, *cāp-ā-piē*.—*Rajasthan*, i. p. 265.

SIRPHERRA, a tribe who reside in summer in Gurghina and winter in Cutch Gandava.

SIRR. Salt lakes of the Indian desert are termed *sirr*, though none are of the same consequence as those of Marwar. The largest is at the town of *Sirr*, so named after the lake, which is about six miles in circumference. There is another at *Champur* about two miles in length. Although each of them frequently contains a depth of four feet of water, this entirely evaporates in the hot winds, leaving a thick sheet of saline incrustation. The salt of both is deemed of inferior quality to that of the more southerly lakes.—*Tod*.

SIRSA, a British district in the Panjab, lying between lat. 29° 13' and 30° 40' N., and long. 73° 57' and 75° 23' E.; when conquered by the British in 1803, it was found almost entirely uninhabited. The Bhatti were lords of the soil, but they tilled little, and only used it as a site for their scattered forts, from which bands of marauders made occasional raids into the surrounding regions. *Sirsa* is entirely dependent for its harvests upon the scanty rainfall; it is peculiarly liable to famine. The Bhatti are graziers, and are still predatory. Other races are Jat, Banya, Arora, and the Muhammadan Waller and Kharal.—*Ann. Ind.* *Ad.* xii.

SISTER is a term applied to cousins, and in such degrees inter-marriages occur. Indeed, a Muhammadan claims for his bride, by right, the daughter of his mother's brother. The polygamic Israelites seem, from Genesis xx. 12, 13, and Esther ii. 3, also Genesis xi. 29, and xiv. 4, to have held these views; but eastern nations in general shrink from calling their wives sisters, as Abraham called Sarah, Genesis xx. 12, 13, and he was suitably rebuked for his impropriety.—*Hind. Theat.* ii. p. 314.

SISUNAGA, a Maghadha dynasty, which ruled in India from B.C. 691 to 395. These are dates given by Mr. Fergusson, who says Sakhya was born B.C. 623, in the reign of Bimbisara, the fifth king of the dynasty, and died B.C. 543, at the age of 80 years, in the eighth year of Ajata Sutra, the eighth king. They are said to have succeeded the parricide Battya kings, B.C. 446, by the murder by Sisunaga of the last Bhatti. This was brought about by a learned Brahman named Chanacya, through whose intrigues Chandragupta was raised to power.

Sisunaga,	reigned 18 years,	B.C. 446
Kalasa,	" 28 "	" 428
Mhadyasena and his 9 brothers,	" 22 "	" 379

The last brother, Pingamaka, was dethroned by Nanda.—*Fergusson*, p. 14. See Bhattya.

SISYMBRIUM ATROVIRENO. Ting-lib, CHIN. A plant of several parts of China, given in dropsy, fevers, amenorrhœa. *Sisymbrium* iris, Khub, Kalan, Khakshi, HIND. Small, oval, bright-yellow seeds. Used for coughs. Formerly used as a pot-herb in England.—*Powell*.

SITA, daughter of Janaka, king of Kosala, and wife of Rama. Rama was the son of Dasaratha, of the Solar race, king of Ayodhya, now termed Oudh, a potent sovereign of Hindustan, who, having been banished by his father in consequence of the machinations of his queens, retired to the banks of the Godavery, accompanied by his brother Lakshmana and his wife Sita, and lived in the neighbouring forests the austere and secluded life of an ascetic; but Sita having been forcibly taken from him by Ravana, the king of Lanka (Ceylon), Rama, with the aid of Sugriva, the sovereign of Carnata, invaded the kingdom of Ravana, and, having conquered him, placed his brother on the throne of Lanka in his stead. The war seems to have been protracted, and its events are related in the Ramayana, one of the finest epic poems (in spite of many extravagances) extant, which beautifully describes the incidents of Rama's life, and the exploits of the contending foes. Sita was highly loved by her husband, who says she gave him excellent counsel, bore his impatience without a murmur, was as a mother to him in the time of need, and a dear friend in time of joy. The Uttara-Kanda says Rama took back his wife on her own oath and the testimony of the gods as to her purity. But the Raghuvasa and the Uttara-Kanda-Charita make her go through the fire ordeal. This is different from Menelaus, who took back his wife Helen after she had lived years with Paris.—*Hard*, iii. p. 183.

SITABALDI, lat. 21° 10' N., and long. 79° 6' E., in Berar, a large station adjoining Nagpur. Mean height of the plain, 1169 feet. The hill of Sitabaldi, standing close over the Residency, consists of two eminences joined by a narrow neck of ground, about 300 yards in length, of considerably lesser elevation than either of the two hills. The whole surface is rock. It is near to the town of Nagpur, and a battle was fought near Sitabaldi, 26th and 27th November 1817, and won by the British.—*Schl. Ad.* S.

SITAKUND, highest peak in the Sitakund range, Chittagong district, Bengal, a sacred hill, 1155 feet above sea-level; lat. 22° 37' 40" N., long. 91° 41' 40" E. It has a hot spring, said to be bituminous, and is a great place of pilgrimage for Hindus from all parts of India. The principal gathering is the Siva Chaturdasi festival, on the 14th day of the moon, sacred to Siva (usually in February); it lasts about ten days, and is attended by from 10,000 to 20,000 devotees. The pilgrims live at lodging-houses kept for the purpose by Brahmans, called *adhikaris*, each of whom is said to realize from £300 to £400 during this feast. A meeting of Buddhists (chiefly hillmen) takes place on the last day of the Bengali year, at a spot on Chandranath Hill, where the body of Gautama, the last Buddha, is locally reported to have been burned after death. Bones of deceased relatives are brought here, and deposited in a pit sacred to Gautama.—*Imp. Gaz.*

SITAKUND, an oblong tank, about 100 feet long by 50 feet wide, excavated in the Mandar

Hill, Bhagulpur district, Bengal, nearly 500 feet above the surrounding plain. The pilgrims who visit it are persuaded that Sita used to bathe in it during her stay on the hill with her husband when banished from Oudh.

Sitakund, a hot spring, is two or three miles from the town of Monghir, and one of the sights of that pleasant and picturesque station.

SITAL SINGH, moonshi to the raja of Benares, author of a history of the various Hindu sects.

SITANA. Below Derbund lies the district of Sitana, about 15 miles north of Torbaila, near the base of Mahaban, and on the bank of the Indus. The Syuds of this place are the remnant of the followers of Syud Ahmad, who, gathering a handful of Gazee (warlike devotees) from various parts of India, raised a formidable rebellion in Peshawur. After winning and losing Peshawur and Yusufzai, the Syud was eventually slain at the mouth of the Kaghan glen by Sher Singh, the son of Maharaja Ranjit Singh. Most of his adherents, chiefly foreigners to the Panjab, dispersed, and the remainder settled at Sitana, on the slopes of the Mahaban. They were proceeded against by the British in 1858, by a force under Sir S. Cotton.—*Papers, East India, Kabul, and Afghanistan*, 1859, p. 20.

SITANG, a river of Burma, rises in lat. 21° 40' N., and long. 96° 50' E., runs into the Gulf of Martaban; length, 420 miles; Yunnan, 115 miles; Saar, 120 miles. It is a navigable river for about 190 miles, and forms the boundary between the Tenasserim Provinces and Pegu. Its valley is the valley of Pegu. The whole extent of the valley is about 350 miles, of which one-half lies within the British provinces of Pegu and Martaban. The Sitang river separates Pegu from Martaban. It opens into a broad estuary, 55 miles wide at its entrance. It consists of hard sand spots, separated by narrow but deep channels, through which the tide rushes with furious rapidity in the form of a bore, which advances like a wall, broken into foam at the top, filling the river from bank to bank. In the dry season, the tide is felt as high as Mien.—*Finlay*.

SITANUK, one valve of a mussel shell, with the dried fish attached. The Punzari of Ajmir call it 'the small head of a sea animal;' used in Ajmir as an aphrodisiac, and also said to cure the cynanche of children; comes from Bombay via Pali. One seer costs two rupees.—*Gen. Med. Top.* p. 132.

SITAR or Sitara, a musical instrument similar to the cither, supposed to have obtained its name from the Sib-tara, the three-stringed, and believed to be the source of the word guitar. Ek Tara, when with one steel wire; sometimes it has nine or eleven steel wires; but generally three, whence its name. See Kemanchi.

SITONA, a species of this genus of insects is one of the most destructive in Indian granaries, attacking poppy seed, maize, millet, wheat, barley, and rice. It is about one-eighth of an inch long, and of a pale-chestnut colour.

SIVA, a Hindu deity, the object of worship of the Saiva sect, which is the most numerous of all the Hindu sectaries. Nearly all the Rajput races, most of the Hindus in the valley of the Ganges, and three-fourths of all the Hindus of the south of India worship Siva in some of his emblematic forms, the most received

of which is that of the lingam. Magnificent temples have been erected to him all over British India, to each of which from thousands to hundreds of thousands of pilgrims annually resort. Those in the Madras Presidency, at Conjeveram, Jambukeswara, Tirunamale, Chedambara, and Kalahasti, are the most celebrated. Siva and his worship are confined to British India, where the name is variously pronounced and written Siva, Shiva, Sivin, Seo, Sheo, Shev, Seb, S'hin, Shib, Shiva, and Chivin, and there is mention of this god in the book of Amos (v. 25-27), 'Have ye offered unto me sacrifices and offerings in the wilderness forty years, O house of Israel? But ye have borne the tabernacle of your Moloch and Chiun your images, the star of your god, which ye made yourselves. Therefore will I cause you to go into captivity beyond Damascus.' And it is evident from this that even then, B.C. 955, the emblem under which Siva is still worshipped, and the marks which his followers put on their foreheads, were both well known. About 500 years B.C. the pantheism of the Vedas became transformed into the respective symbolic embodiments of Siva and Vishnu, and, in later times, Siva has since been accepted as the same with the Vedic deity Rudra. Siva is a god unknown to the Vedas; the name is a word of not infrequent occurrence in the hymns, indeed, but means simply propitious; not even in the Atharvan is it the epithet of a particular divinity, or distinguished by its usage from any other adjective. As applied to him whose title it has since become, it seems one of those euphemisms so frequent in the Hindu religions, applied as a soothing and flattering address to the most awe-inspiring god in the whole pantheon.

Siva is mentioned by Bardasanes, a Greek author, as worshipped in a cave not far from Peshawur in the early part of the third century. The worship of Siva seems to have been introduced into India about the beginning of the Christian era, and apparently came from the west, and embodied the sun-worship and the physiological philosophy of Baal. Colonel Tod tells us that there are numerous temples in Rajasthan of Ibrahim; and that Balpur (Mahadeo) has several in Saurashtra, all representing the sun.

One of the great teachers of the Saiva sect was Sankaracharya, A.D. 850. He was born in Malabar. He extended his teachings to Kashmir and Kedarnath, where he died at the early age of 32. He wrote in Sanskrit many religious works, and has exercised a great influence on the religion of the people of India. He had ten disciples, and the appellation Das-namah, applied to the ten Saiva sects, has reference to their names. Of these, six and a half sects have fallen away from Sankara's doctrines. They are called Atithi, from 'a tita,' passed away from worldly cares. They are still religious mendicants, are frequently collected in matha or monasteries, but they are not ascetics, as they use clothes, ornaments, and money, carry on trade, accumulate property, and mix in the business of the world.

The Dandi of Sankara, three and a half in number, are compelled to retain his doctrines in a pure form. The doctrines of the Dandi and of the Atithi are those of the Vedanta system. What the Sri-Vaishnava are to the Vaishnava

sects, that the Dandi are to the Saiva sects; and what Ramanand was to the Sri-Vaishnava, that Gorakhnath was to the Dandi.

The attributes of Siva are many. He is named *Iśa* or *Iśwara*, *Rudra*, *Hara*, *Sambhu*, *Mahadeva*, *Maheśha*. Siva is Time, the Sun; he is Fire, the destroyer, the regenerator. His consort *Parvati*, a mountain nymph, is the symbol of created nature, and in that character named *Prakriti*. As the deity presiding over generation, his type is the *linga*, which is the phallic emblem of Egypt, Greece, and Rome. As the god of justice, which character he shares with *Yama* and other deities, he rides a bull as his *vahan*, the symbol of divine justice. He holds, as his commonest attribute, a trident, called *triśula*, in this and in some other points resembling *Neptune*. His colour, as well as that of the bull, is white, and his hair of a reddish colour. He is sometimes represented as with two, four, eight, or ten hands, and with five faces. He has a third eye on his forehead, pointing up and down, a distinction peculiar to him. As *Mahadeva*, he is abundantly decked with serpents, emblems of immortality, and common ornaments to many deities. He is often represented with his *triśula* or trident in one hand; as also with the *paśa*, string or rope, also often depicted in the hands of his consort *Kali*, for binding and strangling incorrigible offenders. Serpents, emblems of eternity, form his ear-rings, called *Nag-mundala*; his pendent collar of human heads, his *Mund-Mala*, marks his character of destruction or time; and his frontal crescent points at its most obvious measurement by the phases of the moon. Occasionally, in his hands is represented the warlike mace (*Gadha* or *Parasha*), and *Mṛigu* or *Sasin*, a name for the antelope, given also as an attribute of the god *Chandra*, the Moon. Frequently Siva's loins are seen wrapped in a tiger's skin, and the river goddess *Ganga* smiles serenely from his *Mugut*, or headpiece. His sectaries give various explanations and comments on these symbols.

Siva is principally worshipped under the form of the *linga*. Some of these *lingams*, usually of basalt or dark-coloured greenstone, are of an enormous size; but they are also made, morning and evening, of clay of the *Ganges*, and after worship are thrown into the river. The *linga* is never carried in procession. The temples dedicated to it are square Gothic buildings, the roofs of which are round and tapering to a point. In many parts of Hindustan they are more numerous than those dedicated to the worship of any other of the Hindu idols, as are the numbers of the worshippers of this symbol beyond comparison more extensive than the worshippers of the other deities or their emblems. The *Binlang* stone is also sacred to Siva. In the temples erected in honour of Siva, the officiating Brahman, after bathing in the morning, enters the temple and bows to Siva. He anoints the image with clarified butter, after which he bathes the image with water which has not been defiled by the touch of a *Sudra*, nor of a Brahman who has not performed his ablutions, by pouring water on it, and afterwards wiping it with a napkin. He next grinds some white powder in water, and, dipping the ends of his three forefingers in it, draws them across

the *linga*, marking it as the worshippers of Siva mark their foreheads. He next sits down before the image, and, shutting his eyes, meditates on the work he is commencing; then places rice and *durva* grass on the *linga*; next a flower on his own head, and then on the top of the *linga*; then another flower on the *linga*; then others, one by one, repeating prayers. He then places white powder, flowers, *vilva* leaves, incense, meat offerings, and a lamp before the image; also some rice and a plantain. He next repeats the name *Siv*, with some forms of praise, and finally prostrates himself before the image.

On the 14th of the increase of the moon in *Phalgun*, in the night, a vigil in honour of Siva is kept at his temple, the image is bathed four times, and four separate services are performed during the night.

The temples of Siva in most parts of India are small, and with one chamber, in the centre of which stands a *linga*, usually of white or black stone; but occasionally 12 such temples, or even up to 108, are arranged immediately adjoining, in a group. Yet these temples are little resorted to by votaries; they are regarded with comparatively little veneration by the Hindus, and flowers and fruit are thrown with little solemnity before the image. The only exception to this is the temple of *Viś-Eśwara* at *Benares*, which is thronged with a never-ceasing crowd of admirers. Along the banks of the *Ganges* the worship of Siva is not the prevailing nor the popular condition of the Hindu faith, and it is only in the south of India that the people possess popular legends regarding him.

The worship of Siva is a religion of stern realities, and his consort, in the forms of *Durga* and *Kali*, are the dread agents for the punishment of mankind. The opposing worshippers of *Vishnu* and Siva long desolated India with wars and persecutions. *Krishna* appears to have been opposed both to the Saiva and *Indra* sects. If any credit could be given to the Hindu legends, *Kavana*, who reigned over Ceylon and the southern part of the Peninsula at the time of Rama's invasion, was the head of a civilised and powerful state, a Hindu follower of Siva. The Hindus who worship both Siva and *Vishnu* are of the sect of *Bhagavat Sampradai*, or devotees of a two-fold deity, these being ordinarily the *lingam* and *yoni* as emblems of Siva and his *sakti* (*Devi*), and of *Krishna*, of the *Yadu* form, with *Lakshmi*. *Vaishnava Brahmins* will never worship Siva nor any emblem of that deity, nor even enter his temple, nor fast on the days of Siva's fast days. Saiva sectarians, generally, worship all deities; they are, in truth, polytheists. But the *Vira-Saiva Lingaets*, and *Smarta Brahmins*, and those who recognise the *Rig Veda*, do not worship at the *Vaishnava* temples. The period of sectarian intolerance is now past or in abeyance; and, as far as observation goes, the worshippers of *Vishnu*, Siva, and Buddhists view each other without malignity; which feeling appears never to have influenced the laity of either sects, who are uniformly respectful to the ministers of other religions, whatever be their tenets.

Siva, from the legendary destruction of the three cities of a demon, is named *Tripura* or *Tripura-sura*, the supposed origin of the modern *Tiperah*. Siva is represented with three eyes; hence his

title of Trinitira and Tri-lochun, and in this form he is the Tri-ophthalmic Jupiter of the Greeks. From the fire of the central eye of Siva is to proceed Pralaya, or the final destruction of the universe; this eye is placed vertically, resembling the flame of a taper, is a distinguishing mark on the foreheads of his votaries, the eye in the forehead being one peculiar characteristic of Siva and of his consort, when armed with his terrors. This third eye is said to have burst from his forehead on an occasion when his wife playfully placed her hands over his eyes whilst he was engaged in austerities in the Himalayas. With it he reduced Kama to ashes for daring to inspire amorous thoughts of Parvati whilst engaged in penance, and by its glance the gods and all created beings were destroyed at one of the periodical destructions of the universe.

The second of Vishnu's ten grand avatars or incarnations was in the form of a tortoise, and hence called the Kurma avatara, the principal incident in which was churning the ocean with the mountain Mandara, the huge serpent Sesha serving as a rope to whirl the mountain round withal, and Vishnu, in the shape of a tortoise, sustained the vast load. The result was fourteen precious articles, called gems or Chauda ratni (more classically Chatur desa ratna), and one of the fourteen was poison; but

'To soften human ills dread Siva drank

The poisonous flood that stain'd his azure neck.'

This legend, which is very popular, gives the action to Mahadeva, whence the epithet Nilakanta, or blue-throated, is a name of Siva. With the Saiva sect it is now not an uncommon name, usually pronounced, as is that of the deity, Nilkant.

Besides the daily worship of the linga in the temples, there are several other periods in which images of Siva are worshipped under different forms; and these are to be seen in numbers, conveyed through the streets of Calcutta, after the festivals in honour of Siva, to be cast into the river. In the month Phalguana he is worshipped for one day as a mendicant. On the following day the images of him, with a bloated countenance, matted locks, and inflamed eyes, are carried in procession, attended by a large concourse of people, dancing, singing, and playing on various instruments, and thrown into the river. In the month of Mughut there is another festival in honour of him, called Hari Gauri, in which he is represented riding on a bull, with Parvati on his knee. But the most celebrated occasion of his worship is in the month Choitru, at the time that the ceremony of the Charkha, or swinging by hooks fastened in the flesh of the back, is performed. This festival derives its name (Charkha or Chakra, a wheel or discus) from the circle performed in the swinging part of it, that terminates the ceremonies, which should properly last a lunar month; but the term is now much shortened, and the observances of it are limited to the followers of Siva. The higher classes do not engage in it, although they contribute towards the expens of, and countenance it. The initiatory ceremonies of purification, abstinence, and exercises of devotion take place several days before the commencement of the rites, during which time the sanyasis, or worshippers, form themselves into parties, and wander

about the streets with horns, drums, etc., making a most intolerable and horrid din. The first exhibition is that of suspension, which is performed by two posts being erected, on the top of which is placed a strong bar, from which the sanyasi or worshipper is suspended by his feet over a fire, kindled beneath him, into which rosin is occasionally cast. His head is then completely enveloped in the smoke, though sufficiently high to be beyond the reach of the flame. On the following day the sanyasis dance and roll themselves upon the beds formed of various descriptions of prickly plants. Their next ceremony is called the Jamp Sanya, or jumping on a couch of pointed steel, which has been thus described. A bamboo scaffolding of three or four stages is erected, on which the sanyasis stand, tier above tier, the principal and most expert occupying the upper row, which is sometimes between 20 and 30 feet high. A kind of bedding, supported by ropes, is stretched beneath the scaffolding by a number of men. Upon the mattress are attached several bars of wood, to which are fixed very loosely, and in a position sloping forward, semicircular knives, upon which the sanyasis throw themselves in succession. In general, the effect of the fall is to turn the knives flat upon the bedding, in which case they do no harm; but occasionally severe wounds, and even death, are the consequences of this rite. Before they take their leap, the performers cast fruits, such as cocoanuts, betel, plantains, etc., among the crowd, on which there is a great scramble for them, as they are supposed to possess much virtue. Women desirous of progeny are very anxious to get these donations, and those of the first families send persons to obtain and bring them for their private eating. The ensuing day is spent in revelling and dancing among burning ashes, and afterwards casting them at each other. On the following day they again infest the streets, attended by music. Cruel rites are now forbidden.

Every Hindu has a sect mark on his forehead, of white earth, red ochre, sandal-wood, or ashes. The worshippers of Vishnu place the mark perpendicularly, and two perpendicular lines and a dot between denotes a worshipper of Vishnu as Rama or Krishna. The worshippers of Siva mark horizontally. Any conical or triangular mark is a symbol of the linga.

One distinguishing mark of the faith of Siva is a crescent on the forehead. With his ascetic devotees the hair is braided, and forms a tîara round the head, and with its folds a chaplet of the lotus seed is often entwined. They smear the body with ashes, and use garments dyed of an orange hue. They bury their dead in a sitting posture, and erect tumuli over them, which are generally conical in form. Col. Tod says it is not uncommon for priestesses to officiate at the shrines of Siva. In the south of India, the officiating priests of the Saiva shrines are commonly of the Vira-Saiva, or Jangam, or Lingaet sect, and are designated Aradhya, also Pandaram.

Siva is represented with his person powdered with the greyish-white ashes of burnt cow-dung, termed Vibhuti, which is consequently used in a similar way by all the Saiva and by many of the Vaishnava ascetics. Part of Siva's scanty raiment is the skin of an elephant, or more properly of an Asura or Titan killed by him under

that form, and thence named Gajasura. His weapon, the trisula or trident, is considered to be in continual motion over the face of the universe to guard and preserve its creatures. To oppose its course would be to incur immediate death. Its motion would appear to be regular, but varying according to the days in the week. Thus it is imagined that it is unlucky to proceed towards the westward on Sundays and Fridays, to the northward on Tuesdays and Wednesdays, to the eastward on Saturdays and Mondays, and to the southward on Thursdays. The trisula or trident symbol of Siva was once used on a copper paisa, weighing $98\frac{1}{2}$ grains, for circulation in the province of Benares only. Siva, as Mahadeo, is often represented sitting on a tiger's skin, with a Nag snake around his head. In the different terrific forms of Siva and Durga, a necklace of skulls forms an invariable decoration, as does the crescent or half-moon on the forehead; and the moon is considered to be the peculiar reservoir of amrita, or the beverage of immortality. Aghora-Ghanta, invoking Chamunda, says of Durga, a sakti of Siva—

'The elephant hide that robes thee, to thy steps
Swings to and fro; the whirling talons rend
The crescent on thy brow; from the torn orb
The trickling nectar falls, and every skull
That girds thy necklace laughs with horrid life.'

—*Cole. Myth.; Tod's Rajasthan*, i. p. 517; *Hind. Theat.*; *Hero and the Nymph*, ii. pp. 69, 195; *Princep's Indian Antiquities*; *Moor's Oriental Fragments*; *Moor's Hindu Pantheon*; *Ferg. and Burq. Cave Temples*, p. 20; *Oudh*, p. 121.

SIVA-BHAKTA, a worshipper of Siva, a Lingaet or Jangam.

SIVA-CHIPAGA-WANLOO, of Bellary, are worshippers of Siva. The Siva-chipegree, or Nagaleka-balji wanloo, worship Siva in the form of a snake.

SIVAGANGA, a hill in the Bangalore district of Mysore, in lat. $13^{\circ} 10' N.$, and long. $77^{\circ} 17' E.$, 4559 feet above sea-level. Its face is crowded with sacred buildings. The number of steps leading to the summit is reckoned equal to the number of yojanas thence to Benares, and consequently the ascent is held to be a vicarious pilgrimage to that city. Pop. (1871), 721.

SIVAGANGA, a zamindari in the Madura district of the Madras Presidency; area about 1460 square miles; population, 432,023.

SIVAJI, founder of the Mahratta empire, was the second son of Shah-ji. He was born about the year 1627, and was brought up under the care of Dadaji Condu, a Brahman whom Shah-ji had placed in charge of his Poona jaghir. Sivaji's associates were his father's soldiers and predatory highlanders, and by the age of sixteen he got beyond Dadaji's control. He is suspected of sharing in gang robberies in the Konkan; and he formed a band from amongst the Bhil, the Koli, the Rauusi, and the Mahrattas of the Mawals to the west of Poona, with whom he surprised the garrison of Torna (A.D. 1646), a strong hill fort, 26 miles W. of Poona. On the death of Dadaji, he took possession of his father's jaghir, seized several hill forts, amongst them that of Purandhar (A.D. 1647), and occupied the tract between Chacun and the Neera. Hitherto his acquisitions had been got without bloodshed, but in 1648 he

plundered a convoy of royal treasure in the Konkan, and before the court recovered from its surprise at this outrage, it heard that five of the principal hill forts in the ghats had fallen into his hands, and that a Brahman, one of his officers, had obtained possession of Kalian and of all the forts of the Northern Konkan. The Bijapur Government was under the impression that Sivaji was acting by the advice of his father Shah-ji. They therefore seized Shah-ji, threw him into a dungeon, and threatened to build up the entrance unless Sivaji should submit; but on this Sivaji offered his services to Shah Jahan, who appointed him to the rank of commander of 5000, and Shah-ji obtained his release from the dungeon, though for four years, 1649-1653, he remained a prisoner at large within the fortress of Bijapur. No sooner was his father free than Sivaji renewed his plans of aggrandizement. He procured the assassination and seized on the territories of the raja who held the whole of the hilly country south of Poona from the ghats inclusive to the Upper Kistna; and when prince Aurangzeb reached the Dekhan in 1655, Sivaji got himself recognised as a servant of the Moghul Government, and obtained a confirmation of his possessions. But when Aurangzeb declared war against the king of Golconda, Sivaji invaded the Moghul territories, surprised Juner, and made an unsuccessful attempt on Ahmadnagpur. He was again forgiven (A.D. 1658) on promising to aid the prince with a body of horse, a promise which he never fulfilled. He renewed the attacks on Bijapur, and Afzal Khan, the commander of the troops, being sent against him, Sivaji tendered his submission, and at Partabguri obtained a personal interview. At the meeting Sivaji clutched him with the weapon called tiger's claws, and despatched him with a dagger, and at a signal from the fort his troops rushed out and slaughtered and dispersed Afzal Khan's army. He then overran all the country near the ghats, and took possession of all the hill forts. On another army being sent against him, he allowed himself to be shut up in the almost inaccessible fort of Panala, May A.D. 1660, from which he at length escaped on a dark night. The king of Bijapur now took the field in person, A.D. 1661, and before the end of a year Sivaji found himself stripped of almost all his conquests; but on the Bijapur king being withdrawn to Carnata for the revolt of Sidi Johar, Sivaji recovered and increased his territories. A peace favourable to Sivaji was mediated by his father Shah-ji, which left Sivaji (A.D. 1662) in possession of a territory including upwards of 250 miles of the Konkan seaboard between Kalian and Goa, while above the ghats its length was more than 150 miles from the north of Poona to the south of Mirich on the Kishna. Its extreme breadth from E. to W. was 100 miles, on which he maintained an army of 7000 horse and 50,000 foot. At the end of 1662, he broke with the Moghuls, ravaged their country near Aurangabad, took their forts near Juner, and occupied the hill fort of Singhar near Poona. Shaistah Khan was sent against him, and occupied Poona, taking up his quarters in the house in which Sivaji had been brought up. Sivaji left Singhar one evening after dark, posted sentries on the road to support him, and went on with 25 Mawali Mahrattas into Poona, where he joined a marriage procession, gained admission

into the house by a back door, and surprised Shaistah Khan in his sleeping room, who received a blow from a sword which cut off two of his fingers, as he was letting himself down from the window to a court below. Shaistah Khan's son and most of his attendants were cut down. Sivaji returned in safety, and reascended Singhar amidst a blaze of torches. This exploit, so congenial to the disposition of his countrymen, is the one of all his actions of which the Mahrattas still speak with the greatest exultation. On this, Aurangzeb superseded Shaistah Khan by sending his son Muazzam and Jeswant Singh. But Sivaji with 4000 horse came suddenly on the rich and defenceless city of Surat, which he plundered at leisure for six days, and carried off his booty in safety to his capital of Reri or Raighur in the Konkan. He was beaten off from the Dutch and English factories.

Sivaji was again at war with Bijapur, and carried on his operations chiefly in the Konkan. He embarked with a force of 4000 men in 87 ships, sacked Barcelor, and plundered all the intervening tract; his troops ravaged the Bijapur territory, and he led in person an attack on the Moghul districts. Aurangzeb now superseded Jeswant Singh and prince Muazzam by Raja Jye Singh and Dilir Khan, who were sent with a large army to the Dekhan, A.D. 1665. Jye Singh laid siege to Singhar, Dilir Khan to Purandhar, and Sivaji yielded to Jye Singh, delivering up 20 out of the 32 forts in his possession, together with the territories attached to them, and he co-operated with Jye Singh against Bijapur. Aurangzeb, pleased with Sivaji's services, invited him to court, but his reception was studiously humiliating, and, overcome with feelings of shame and indignation, he stepped back behind the line of courtiers and fainted. On recovering, he reproached Ram Singh and withdrew. Aurangzeb ordered him to be watched, but after a short time Sivaji and his son Sambaji passed the guards concealed in baskets, and, mounting a horse with his son behind him, he escaped to Muttra, where he put on the dress of a religious mendicant, shaved off his hair and whiskers and rubbed his face over with ashes, and, leaving his son there under the care of a Brahman, he pursued his journey by the least frequented roads to the Dekhan, reaching Raighur in December 1666, nine months after his escape from Delhi. The English factors at Karwar in the Konkan wrote on the 29th September 1666, 'If it be true that Sivaji has escaped, Aurangzeb will quickly hear of him to his sorrow.' In the following year, 1667, Jye Singh failed in an attempt on Bijapur, and he in his turn was superseded by prince Muazzam and Jeswant Singh. Sivaji joined these commanders, his title of raja was acknowledged, his territory partly restored, and a new jaghir was granted to him in Berar. The years 1668 and 1669 were passed in tranquillity, which gave Sivaji time to arrange his government. His army, both horse and foot, was formed in divisions, with a regular chain of officers, from heads of ten, fifty, up to heads of 5000, above which were the generals of the divisions, all regularly mustered and paid by the state, and the utmost economy enforced. His civil officers were all Brahmans, and those of the highest rank were often employed in military commands also. Aurangzeb tried to get Sivaji into his power, but Sivaji turned all

the emperor's plans against himself. Aurangzeb then ordered an open attempt to seize Sivaji. The peace thus broken, Sivaji's great friend and confidant, Tanaji Maduari, surprised Singhar near Poona with 1000 Mawali, who escalated its walls at night, though with the loss of their leader and many of their number. Sivaji conferred a silver bracelet on each of the survivors; he captured other forts, again plundered Surat, ravaged Kandesh, and for the first time levied the Chouth or fourth share of the revenues, a tax which afterwards formed a prominent feature in Mahratta policy. His progress was almost uninterrupted because of the inactivity of Muazzam and Muhabbat Khan (A.D. 1671), who considered the forces under them insufficient for the country they had to hold. Muazzam remained inactive at Aurangabad, and Muhabbat Khan, in an injudicious attempt to cover a siege in which he was engaged, exposed a body of 20,000 men to a total defeat by the Mahrattas (A.D. 1672). This was the first field action won by Sivaji's troops, and the first instance of success in a fair conflict with the Moghuls, and Aurangzeb recalled both prince Muazzam and Muhabbat Khan. In the course of the years A.D. 1673 and 1674, after a succession of battles and sieges, Sivaji made himself master of the whole of the Southern Konkan, except the parts held by the English, Abyssinians, and Portuguese, and of a tract above the ghats, extending farther to the east than the upper course of the Kistna. He now, 6th June 1674, had himself a second time crowned at Raighur, with all the ceremonies of a Moghul coronation, including his being weighed in gold, and distributing rich presents to all around him. Mr. Oxenden was the English envoy from Bombay to Sivaji, and was present at the coronation. At the same time, he changed the titles of his principal officers from Persian to Sanskrit; and while he thenceforth assumed all the pomp of a Mahratta prince, he redoubled his attention to the duties of his religion, and affected greater scrupulosity than ever in food and other things connected with caste. Soon after this ceremony the Moghuls made an excursion into his territories. Sivaji retaliated (A.D. 1675) by sending bands into the imperial provinces, plundering the country to the heart of Kandesh and Berar, and even penetrated into Gujerat as far as Baroach, where for the first time his troops crossed the Nerbadda. In 1676, he resolved to recover his father's jaghir in the Peninsula. He formed an alliance with the king of Golconda, and marched to that fortress with 30,000 horse and 40,000 foot, and it was agreed that he should share with that king all conquests beyond his father's jaghir, while the Golconda forces should keep those of Bijapur in check. He crossed the Kistna at Kurnool, March 1677, proceeded through Cuddapah, and, passing close to Madras, presented himself at Jinjee, of which he obtained possession, and his army besieged and took Vellore, Arnee, and all his father's jaghir in Mysore. Hearing of the invasion of Golconda by the Moghuls, he left his half-brother Santaji in charge of his new conquests; but the king of Golconda had come to a settlement with the Moghuls, and Sivaji, after conquering Adoni and Bellary, returned to Raighur about the middle of A.D. 1678, from which he had been absent eighteen months. His brother Vencaji came to a compromise, by which he was to retain

the jaghir, but pay half the revenue to Sivaji, who was to keep to himself the places he had conquered from Bijapur.

In A.D. 1679, Aurangzeb ordered Dilir Khan and prince Muazzam to make demands on the Bijapur Government. Its king was a minor, and the regent sought the aid of Sivaji, who invaded and laid waste the Moghul territory with more than ordinary severity. He was thus engaged when he received intelligence that his son Sambaji had deserted to the Moghuls. Aurangzeb ordered Dilir Khan to send Sambaji to the royal camp, but Dilir allowed him to return to his father, and Dilir, pressed by Sivaji and by Bijapur, raised the siege and retired. The price of Sivaji's alliance was the cession of the territory between the Tumbudra and the Kistna, and shortly after, on the 5th April 1680, Sivaji died at the age of 53 years.

His treacherous assassination of Afzal Khan was a detestable crime. The family was of the Mahratta Kunbi race, but claimed descent from the rajas of Mysore. His son Sambaji succeeded to power, but, after a life of continued war, he fell into the hands of Aurangzeb, who put him to death in 1689. Ram Raja, son of Sivaji, was for a short time on the throne of his father, but was dethroned and imprisoned by his half-brother Sambaji. He died A.D. 1709, leaving two sons. In 1688, Sambaji, son of Sivaji, was taken prisoner, and in August 1689 put to death. Saho or Shaoji, son of Sambaji, succeeded in 1708. In 1719 Saho obtained the Chouth or one-fourth of the total revenues of the six subahs into which Aurangzeb had nominally subdivided the Dekhan. He fixed his capital at Satara, and on the death of Aurangzeb in 1707, he took advantage of the broils in the Delhi empire to enlarge his boundaries and power. His treasurer was Balaji Wishwanath, father of Baji Rao, the first of the Peshwas of Poona. Holkar, of the shepherd caste, and Sindia, in A.D. 1720 were cavalry officers in his army. He died in 1749, on which Holkar established himself at Indore, and Sindia first at Ujjain, and finally his descendant in 1810 at Gwalior, in the province of Agra.—*Elphinstone*, pp. 592-572; *Grant Duff, Hist. of the Mahrattas*.

SIVALAYA, a temple of Siva, from Siva, and Alaya, an abode. The Sivalaya in old Bardwan consists of 108 temples in two large amphitheatrical circles, one within the other.—*Tr. of Hind.* i. p. 157.

SIVA NARAYAN, a Rajput, a native of the village of Chondavan near Ghasipur, flourished during the reign of Muhammad Shah, A.D. 1735. He was a voluminous writer, and founded a sect of unitarian Hindus who profess the worship of one God, of whom no attributes are predicated. They offer no worship nor pay regard to any of the objects of Hindu or Muhammadan veneration; they admit proselytes from Hindus, Muhammadans, and Christians. Truth, temperance, and — are their cardinal virtues, and polygamy prohibited. The sect comprise Rajputs mostly. They seem to be the same with the Siva Narayana, a unitarian sect of the people of India, who do not worship or regard any object of Hindu or Muhammadan veneration. They admit alike Hindus, Muhammadans, and Christians as proselytes. Their cardinal virtues are truth, temperance, and mercy. Polygamy is prohibited. The

founder was Siva Narayan, a Rajput, who flourished about A.D. 1735, in the reign of Muhammad Shah.—*H. H. Wilson*, i. p. 358.

SIVA PUJA is performed by all young Hindu girls in Bengal on the 30th day of the month Choytro, because Siva is regarded as a model husband, and his sakti Durga worshipped him. Krishna in character is supposed to be questionable.

SIVA-RATRI, or Maha Siva-Ratri, a popular festival in honour of Siva, on the 14th of the moon's wane in Magha (January—February). A rigorous fast is observed during the day and night, and Siva is worshipped in the form of the lingam, the priapus of the Romans, and phallus of the Greeks. On the 29th of each month the lingam is worshipped by all Saivites, but in the worship on the Maha Siva-Ratri the many different names of Siva are repeated over the lingam, and a leaf of the *Ægle marmelos* dropped on it at each name.

SIVASAMUDRAM, lit. Sea of Siva, an island formed by the branching of the Kaveri (Cauvery) river into two streams, each of which makes a descent of about 200 feet in a series of picturesque rapids and waterfalls. The island is properly called Heggura, but the name of Sivasamudram is derived from an ancient city, lat. 12° 16' N., long. 77° 14' E.

SIVATHERIUM, from Siva, an Indian deity, is a genus of extinct animals of the family Elephantidae. The remains of species of this remarkable genus were found by Dr. Falconer and Colonel Cautley in the valley of Mackaunda, in the Siwalik Hills of the Himalaya. Two species of this genus, *S. giganteum* and *S. Perimense*, have been described. A cranium, lower jaw, and teeth, and bones of the extremities, of *S. giganteum* are now in the British Museum. The skull of this animal is nearly as long as that of the elephant; the neck is shorter and stronger than in the giraffe. The posterior portion of the skull is greatly developed, and formed of cellular cavities, as in the elephant. The face is short, and the nasal bones are remarkable for the manner in which they are prolonged into a pointed arch above the external nostrils, indicating a trunk or proboscis. The very inclined direction of the front of the face in relation to the triturating surface of the teeth, imparts a physiognomy altogether peculiar. Two horns arise from the brow between the orbits, and diverge from each other, and it is probable that the posterior protuberances of the forehead also supported a pair of short massive horns. When living, the Sivatherium must have resembled an immense gnu or antelope, with a short thick head surmounted with two pairs of horns. The front pair of these horns were small, whilst those behind were probably palmated. The eyes were small, and it had a nasal proboscis, an organ unknown amongst the Ruminantia.—*Mantell, Petrifications and their Teachings; Jour. As. Soc.; Eng. Cyc.; Falconer's Palaeozoic Remains*.

SIVA-VAKYA, the name of a well-known work treating of Siva as the supreme being.

SIVI, son of the king of Usinara near Gandhara. He was famed for his charity and devotion to Siva.—*Dowson*.

SIVIRA or Seorea, a race in Ghasipur, Gorakhpur, Behar, Benares, and Mirzapore, whom Buchanan thinks identical with the Kol and the Cheru.—*Elliot*.

SIWAI. HIND. A quarter more, a title of a Hindu ruler; also, an additional cess of 25 per cent.; properly Sawai.

SIWALIK HILLS, a mountain range which runs parallel with the Himalayan system, from Hardwar on the Ganges to the banks of the Beas (Bias). It belongs to the tertiary deposits of the Outer Himalayas; and it is chiefly composed of low sandstone and conglomerate hills, the solidified and upheaved detritus of the great range on its north. Its northern slope leads gently down into the Delira Doon, a vale between the Himalaya and their outlying Siwalik subordinates. A thick forest of sal and sain clothes the lower sides, while on the higher crests pine woods indicate a cooler climate. Wild elephants abound; and the fauna in this section also includes tigers, sloth-bears, leopards, hyænas, spotted deer, pigs, and monkeys. The total length of the range from the Ganges to the Beas is about 200 miles, and its average breadth about 10 miles. All the great rivers which run at right angles to the Siwaliks—the Ganges, Jumna, Sutlej, and Beas—have worn themselves valleys through this chain. The Siwalik Hills are about 8 to 10 miles across, and are a mass of boulder and sandstone hills, generally quite dry, but broken up into ravines, through which sudden floods or 'raos' rush in the rains. The Siwalik Hills, which bound the Doon to the south, are in height from 400 to 600 feet.

It is in these hills that extensive fossil remains were discovered by Dr. Falconer and Captain Cautley. Of the quadrumanous or monkey tribe may be mentioned species of the *Palæopithecus*, *Semnopithecus*, and *Macacus*. One of the carnivora, the great sabre-toothed tiger, *Machairodus latidens*, now quite extinct, is remarkable for the enormous development of its canine teeth, and also for its wide distribution. It has been found in Kent's Cavern, Torquay, in the Norfolk forest beds, in the miocene tertiary deposits of Epplesheim in Germany, the Auvergne in France, the Val d'Arno in Italy, the pampas deposits and bone caves of South America, and the upper miocene fresh-water limestones of the Siwalik Hills.

These hills also contain remains of extinct species of the Proboscidea or elephants, various species of *Mastodon* have lived there, and also in Burma, and also in Armenia, many parts of Europe, and N. and S. America. Dr. Falconer described 13 species of fossil elephants, 9 of which are from India. Amongst these are *Elephas ganessa*, with tusks 10½ feet long, and it was probably the largest of all the extinct elephants.

One of the ungulate or hoofed animals of the Siwalik, the three-toed miocene ancestor of the horse (the *Hipparion* or *Hippotherium*), occurs fossil, and has also been found at Pikermi in Greece, and in France and Germany. Remains of the hippopotamus have also been found in the newer miocene deposits of the Siwalik.

India has also furnished fossil remains of two pigs, the *Sus hyauidricus* and *Sus giganteus*.

The newer tertiary deposits of the Siwalik also furnished remains of the *Sivatherium*, a gigantic four-horned ruminant, bearing some resemblance to the living antelope of India. Fossil remains of the camel have also been found there; and, of three extinct species of the ruminant *Chalicotherium*, one is from India, and one from China, while in the later tertiaries of the Siwalik have

been found the heads and horn cores of fossil oxen and antelopes.

In the newer miocene deposits of the Siwalik also have been found the bones of a fossil ostrich, *Struthio Asiaticus*, and the remains of a huge crane, *Argala Falconeri*.

The tertiary rocks of India have also furnished remains of alligators, crocodiles, and gavials. Some of the existing tortoises are large, but the extinct *Colossochelys atlas*, discovered by Dr. Falconer in the Siwaliks, exceeds in size all known chelonian remains. From the pieces found, the shell of one has been restored in the British Museum, and it measures 20 feet in longitudinal, and 15 feet in lateral girth.

Mr. W. T. Blanford is of opinion that the fauna of the Siwalik Hills belongs to the pliocene formation. In Sind, strata containing miocene marine fossils pass up into beds with a mammalian fauna, including some of the older Siwalik forms, such as *Mastodon*, *Chalicotherium*, *Dorcatherium*, etc., together with *Dinotherium*, *Hypotamius*, *Hyotherium*, *Anthracotherium*, etc., which have never been found in the true Siwaliks. These Sind beds are apparently equivalent to the Lower Siwaliks, which are unfossiliferous in the typical area. In the Middle and Upper Siwaliks, instead of the old forms just named, elephants, *Loxodon*, cervine, and bovine ruminants in abundance, and other recent types, are found. As the Sind beds cannot be older than upper miocene, the typical Siwaliks must be pliocene. The mammal *Bos (Bubalus) palæindicus*, found in the Upper Siwaliks, occurs also in the Nerbadda alluvium, associated with palæolithic implements.—*Nature*, 5th September 1878; *British Museum Catalogue*; *Falconer's Palæozoic Remains*; *Beng. and Roy. As. Soc. Journ.*; *Imp. Gaz.*

SIYAL BET, in Kattyawar, contains the remains of the ancient city of Srilingapuram.

SIZE. *Siras*, GUJ.; *Sirisht*, HIND. A gelatinous substance, obtained from parchment shavings, fish-skin, and several animal membranes. It is less adhesive than glue, and is used by bookbinders, paperhangers, and painters.

SKAMBHA. *SANSK.* The Supreme Being. The word means the fulcrum. In this sense it is equivalent of the Arabic *Kiblah*.

SKANDA, a name of Subhramanya, the Hindu god of war, a six-faced deity. Parvati, the wife of Siva, having produced a son, Ganesa, without a father, by her intense wishes, Siva, with emulative skill, developed Skanda out of his own inner consciousness,—or outer substance,—it cannot certainly be stated which. Heaven and earth were then cursed by the tyranny of the giant Sura. Brahma, Vishnu, and the other deities besought Siva to release them from his thralldom. Siva shrank from the task, but promised that his son Skanda should become incarnate for their relief. Immediately on conception he was born of six Kartikeyi, heavenly virgins, who happened at that juncture to have descended to bathe in a sacred tank. While they were basking in the warm rays of the sun, each one of them gave birth to a son, and they at once departed to their celestial abode. Siva, hearing the cries of the little outcasts, instructed Parvati to nurse and rear them. As she hugged them to her breast, the six trunks became incorporated in one, while the six pairs of hands and feet, and the six heads

remained distinct and separate;—hence his other name, Arumugam (six faces). In five years he had completed his course of studies. The following seven years he spent as an ascetic on the banks of the tank which was the scene of his birth. At the age of twelve he collected a thousand hosts of Bhuta or goblins, and sallied forth to conflict with the giant Sura, who had for his defence a hundred thousand hosts of similar goblins, the giant, his two brothers, and his four sons fighting in the forefront of their ghostly battalions. Skanda with one blow of his weapon severed the giant in twain. The separate parts instantly assumed the shapes of a cock and a peacock, and with beak and spur renewed the conflict, only to be re-subdued by Skanda, who mounted the peacock, and has since continued to use it as his chariot, while the cock has remained his warlike emblem and standard. Indra, the god of heaven, rewarded his courage by giving to Skanda his lovely daughter Devani in marriage, while the liberated and joyful inhabitants bowed to him in adorations and worship.

SKANDA PURANA is one of the sacred books of the Hindus. One portion, named Kasi Khanda, of 15,000 stanzas, written prior to the 11th century, describes the Saiva temples in and near Benares. Another fragment, the Utkala Khanda, describes Orissa. The book purports to have been written by Skanda. It is read through once a year in the temples of Siva. Skanda Shasthi, a fast and festival observed in honour of Skanda.—*Douson*. See Purana.

SKARDO, lat. 35° 20' 2" N., long. 75° 44' E., in Balti, the capital of a province, on the left bank of the Indus. Level of the Indus at the rock Mendok Kar, 7255 feet. In Gilgit, Hunza Nagyr, and all the valleys to the westward, the name Skardo is almost unknown, and the place is called Palor, Balors, Palolo, Balti. It was conquered in 1840, for the Raja Ghulab Singh, by his general Zorawar Singh, with his Dogra troops. The people grow corn, irrigating the land, and using manure. They are fond of out-of-door or manly games. Skardo, or Little Tibet, is a Bhot tract, but the people are Muhammadans. They are strong and hardy; they grow corn and cut water-courses like the people of Rongdo. Skardo is called by the Lamas of Ladakh, Skar-ma-m-do, meaning the enclosed place or the starry place. Iskardo is the Arab-Muhammadan pronunciation, who fail in all attempts to pronounce the double consonant beginning with a, requiring to prefix an i.—*Latham's Ethnology*; *Adolphe Schlagentweit*.

SKENJEHIL. PERS. A beverage in use with the native hakims; a syrup of vinegar diluted with water.

SKEWERS, a term by which sailors designate a practice in the Archipelago of transfixing the organ. Dalton says they use copper, the bones of birds and monkeys, and hardwoods. The ceremony, he heard, took place after the birth of the first child; but from subsequent inquiries he found that it is immediately after they have tun-aged or betrothed with a girl; that unless the lover submitted to it, the girl would have nothing to say to him; that they measured the length of the skewers to be used by the length from the first to the second joint of the woman's third finger; that a great chief often used three, some two, others one; and that it never seemed to

injure them in the slightest degree. The Naga are stated by Fyche (i. p. 350) to wear a ring four to eight lines broad.—*Journ. Ind. Arch.* v.

SKIMMIA LAUREOLA. *Hooker*.
Ner . . . of JHELM. | Shalangli . . . of RAVI.
Burroo . . . of RAVI.

A shrub of the N.W. Himalaya. It has been introduced into English gardens, and is greatly admired for its aromatic, evergreen foliage, and clusters of scarlet berries. This plant never bears scarlet berries in Sikkim, apparently owing to the want of sun. The fruit ripens, but is of a greenish-red or purplish colour.—*Hooker*; *Stewart*; *Gamble*.

SKINNER, COLONEL JAMES, a brave soldier who distinguished himself in the wars of Lord Lake and Marquis Hastings. He was the son of a Scotch officer by a Rajput mother, and served in the Mahratta armies under General de Boigne, and afterwards under General du Perron, from 1796 to 1803, when he took service under Lord Lake, and rose to rank and distinction. He died in 1841. He raised and commanded a body of horse, which rendered important services in the campaigns of the British against the Mahratta and Pindari. He wrote in Persian, Tashrih ul Akwam, an account of the origin and occupations of the various castes and tribes of Hindustan, with native drawings representing their appearance and costumes. Besides, he was the author of a book called Tazkirat ul Umra, Memoirs of the Princes. He devoted 20,000 rupees to build a church at Delhi.

SKINS.

Skind,	DAN.	Charm,	PERS.
Vellen,	DUT.	Pelles,	PORT.
Peaux,	FR.	Charma,	SANSK.
Felle,	GER.	Pieles,	SP.
Chamra,	HIND.	Skin,	SW.
Pelli,	IT.	Tol, Tolu,	TAM., TEL.
Kulit-balulang,	MALAY.	Deri,	TURK.

This term is applied in commercial language to the skins of calves, deer, goats, lambs, etc., which, when prepared, are used in the lighter works of bookbinding, the manufacture of gloves, parchment, etc.; while the term hides is applied to the skins of the ox, horse, etc., which, when tanned, are used in the manufacture of shoes, harness, etc. The exports of India have greatly increased in value, from Rs. 30,30,890 in 1851–52 to Rs. 1,95,40,032 in 1882–83. In India, the hides of the bison, sambar, bullock, horse, cow, sheep, goat, kid, dog, and iguana are all tanned. Iguana skins are tanned and dyed black, or are left of their natural colour. They are thin, even, soft, tough, and granular, green-like in external appearance. From the absence of gloss, the appearance of this leather is not in its favour, but it bids fair to be a durable article for light slippers, and a good covering for the commoner kinds of instrument boxes, such as are still done over with shagreen. Sheep and kid skins are tanned white for the better kind of gloves, and for the purpose of the apothecary. Python skin, when tanned, makes excellent boots, much prized in England for their strength, pliability, and great beauty, as they are handsomely marked. They are pliable and easy to fit, perhaps owing to the accommodating nature of the snake's skin when in a live state. Boots of Norwegian manufacture are made from the skin of a salmon. In certain of the Southern States of America, the

skins of young alligators are tanned, converted into leather, and the leather manufactured into boots. They are for sale in many shops in London. The religious Hindu student sits on the skin of an antelope or tiger, and in the south of India the same is used for weddings. Skins were exhibited at the Lahore Exhibition from the hills around Kangra and Simla. The sable from Russia, and the Karakuli lambskins of Bokhara, had been imported. Karakuli are so called from Karakul, a province 20 cos south of Bokhara. They are lambskins with the hair on; as much as 10 lakhs' worth are exported to Persia, Tartary, Kabul, and India; other districts of Bokhara produce them, but all are called Karakuli. The soft black lambskins of Karakul are immensely prized for making postins and for coats. They are prepared by taking the skins of the young lambs immediately on their being born. This of course is an expensive method, and the skins are proportionately high-priced. See Hides.

SKOPTZI. The ceremonies of the Russian sect of 'the mutilated' (Skoptai) were described in a manuscript by Monsignor Plato, metropolitan of Moscow, at the request of the emperor Alexander I. They fully explain the nature of the 'two communions' of the Skoptzi. The first communion is called that of the Flesh of the Lamb, and is administered at all the general meetings of the Skoptzi; the second, which is only administered to the elect on extraordinary occasions, is called that of the Blood of the Lamb. The women of the sect are bound to live a life of chastity, but it nevertheless often happens that they have children, and this is usually ascribed by the Skoptzi, not to the women having broken their vows, but to divine interposition. The child, if a male, is sacrificed on the seventh day after its birth. A bandage is tied over its eyes, its body is stretched over a dish, and a silver spear is thrust into its left side, so as to pierce the heart. The elect of the Skoptzi then advance in turn and suck the child's blood. This is what is called 'the communion of the Blood of the Lamb.' As soon as the ceremony is over, the body is put in another dish full of sugar, where it is left until it dries up; it is then crushed into powder, and administered in small cakes to the ordinary members of the sect as 'the communion of the Flesh of the Lamb.'

SKURU. **TIB.** A praying cylinder of wood, four or five inches long, revolving on an iron spindle, on which are wound written prayers and interjections. The lower end of the spindle forms the handle by which the cylinder is twirled. It is of the same character as the praying drums of China.—*Cunningham*.

SKYIN. **TIB.** *Capra Siberica*, wild goat or ibex of Ladakh, with horns 4 feet 3 inches in length. It frequents the most inaccessible rocks, but about one or two hundred are killed in Balti every winter, when they are forced to descend into the valleys. In Ladakh they are snared at night, or shot in the grey dawn of the morning when they venture to the streams to drink. Their hair is black, long, coarse, and useless; but the soft under-fleece, called *Tum*, or in Kashmir *Asl-Tus*, is an exceedingly fine, soft wool of a light-brown colour, used in Kashmir as a lining for shawls, woollen stockings, and gloves. It is also woven into a very fine cloth, called *Tusi*, of a soft and

delicate texture, much prized for its warmth. The term ibex is given in India to several animals of the genus *Capra* or goats, but *Capra Sibirica*, the Ibex Himalayana, *Blyth*, is the Himalayan ibex, the Skeen or Sikeen of the Himalaya, the *Kyl* of Kashmir. These are the names of the male, that of the female in Tibet is *L'daym*. It inhabits Ladakh and Kashmir. A wild species of ibex, called *Paseng* by the Persians, occurs in Middle and North Asia, but it belongs to the genus *Ægagrus*. See *Bovidae*.

SLAID, a Bedouin tribe in Irak. They are cultivators, and have a breed of large white asses, much used in Syria.

SLATE.

Skiferstein,	DAN.	Ardoera,	PORT.
Lei,	DUT.	Aspid,	RUS.
Ardoise,	FR.	Pizarra,	SP.
Schiefer,	GER.	Skifersten, . . .	SW.
Sil,	HIND.	Kalpalagi,	TAM.
Lavagna, Lastra, .	IT.	Rati palaka, . . .	TEL.

A laminated rock, of which there are many kinds. One of commercial importance is a clay-slate employed for roofing, and as writing slates. True roofing slate is capable of almost infinite division into thin plates or slabs. A blue slate is quarried in the Karakambady district in North Arcot. When first taken from the quarries it is very soft, and can easily be cut into slates, etc. Slate is also found near the Khassya Hills. Slates for roofing are found in Madhopur in the Panjab. Slates are occasionally brought down from the Himalaya. A slate of the Dalhousie quarries is deemed medicinal by natives, and called *Sang-i-Musa*, 'Moses' stone.' Slates occur in the hilly tracts of the Sonah, Pali, and Ferozpur parganas of the Gurgaon district. Writing slates, and the slate-pencil for writing on them, are imported into the East Indies from Europe. The materials used in the Indies in lieu of writing slates are slabs of wood, and thick slabs of paper, for which pencils of soapstone are used. In Cuttack, Kharee is used for the manufacture of pencils and balls, for writing on the ground or floor, in all rural schools, and by native accountants.—*Cat. Ex.*, 1862.

SLAVE.

Abd, Abdal,	ARAB.	Servus,	LAT.
Slaaf,	DUT.	Escravo,	PORT.
Esclave,	FR.	Nevolnik,	RUS.
Sklave,	GER.	Eslavo,	SP.
Ghulam,	HIND., PERS.	Slaif,	SW.
Das, Dasa,	"	Pullukal,	TAM.
Schiavo,	IT.	Yessir,	TURK.

Slavery in one form or other exists throughout the East Indies. Among all nations, slavery, with its accompanying horrors, was the lot of a weaker neighbour; but even in the case of an enemy conquered in battle, it was by the Egyptians sometimes allowed to stand in place of the more triumphant cruelty of slaughter. The Israelites had learned the evils of slavery from having groaned under it themselves, and they forbade it in every possible case. Exodus xxi. 16, 'He that stealeth a man, says the law, 'or selleth a man, or hath one found on his hands, shall be put to death.' Nevertheless, slavery was a recognised condition amongst the Hebrew races, as may be observed from reading Matthew xviii. 25, where the Lord Jesus illustrated his sermon by the remark that, 'as he had not to pay, his lord commanded him to be sold, and his wife and children,

and all that he had, and payment to be made.' Hindu law recognises 15 kinds of slaves—1. Grihujata, the child of a female slave; 2. Krita or purchased; 3. Labdha or gifted; 4. Dayadupagata or inherited; 5. Anukalabhita, taken in time of famine; 6. Ahita, pledged; 7. Kinadasa, voluntarily a slave in payment of a debt; 8. Yuddaprpta, taken in a war; 9. Panajita, won in a wager; 10. Tavavnam, voluntarily; 11. Pravaraajyavasita, an apostate; 12. Krito, voluntarily for a time; 13. Bhakta-dasa, a slave for his food; 14. Varavahrita or Baulava-hrita, one who by marrying a female slave becomes a slave; 15. Atmani krayi, one who sells himself as a slave.

Muhammadan law recognises only two kinds, viz. infidels made captive in war, and their descendants. In practice, however, a title to slaves may be acquired by purchase, donation, or inheritance. Also, according to the principle recognised by these religionists, Kul-Islam hurre! All Islam is free! no Muhammadan can legally be allowed to be kept as a slave; but all over Asia there are many slaves of this religion in the possession of their co-religionists, either purchased or taken in predatory excursions or in war. Mahomed, even when he sanctions the enslavement of captives taken in war, enjoins their surrender on payment of a fair ransom. 'Show kindness to your slaves,' he says in one place; in another, he lays down that 'alms should buy the freedom of slaves;' and once, in speaking of the marriage of slaves, he even says, 'You all come one from another and from Adam, the common father.' The 24th chapter of the Koran runs, 'If any one of your slaves asks from you his freedom, give it him if you judge him worthy of it; give them a little of the goods which God has granted you.'

In what is now British India, during the revolutions and disturbances preceding the accession of Akbar, the enslaving of the conquered soldiery and townsfolk had been carried to a great height. Not only was it practised towards the wives and children of garrisons who stood a storm, but the peaceable inhabitants were also carried off and sold, till Akbar by an edict (1561) prohibited making slaves of persons taken in war.

Sabaktagin, father of Mahmud of Ghazni, was a slave; so was Kutub-ul-Din, the conqueror and first king of Delhi, A.D. 1206, the Slave dynasty lasting till A.D. 1288.

A writer of the 17th century, when noticing the races of Cochin, says the slave castes, the members of which belong to individual masters, are the *Cannekas*, who gather the coconuts; the *Bettoa*, who make salt pans and collect the salt. These two are the most honourable of the slave castes. The *Pulleah*, who are again subdivided into several classes,—the Collamary or smiths, the Weltoe Caren, the Beltoc Pulleah, and the Canna Pulleah, whose occupation is agriculture, sowing, planting, and cutting the Nely, for which they receive both from their proprietors and from strangers one sheaf out of every ten they cut. There was then a dispute between the *Cannekas* and the *Pulleah* as to which is the higher caste; the former maintaining that their caste ranks first, whilst the *Pulleah* averred that they enjoy more privileges, as, for instance, that they may employ barbers, and may wear a fillet on their heads, and a long

garment reaching to the knees, which the *Cannekas* may not do.

Tod tells us, in the Rajasthan, that the illegitimate sons of the rana of Mewar are called *das*, literally slave. They have no rank, though they are liberally provided for. *Bussee* signifies acquired slavery, in contradistinction to *gola*, a hereditary slave. The *gola* can only marry a *golee*; the lowest Rajput would refuse his daughter to a son of the rana of this kind. The *bussee* can redeem his liberty. The *gola* has no wish to do so, because he could not improve his condition nor overcome his natural defects. To the *bussee* nothing dishonourable attaches. The class retain their employments and caste, and are confined to no occupation, but it must be exercised with the chief's sanction. Individuals reclaimed from captivity have in gratitude given up their liberty. Communities, when this or greater evils threatened, have done the same for protection of their lives, religion, and honour. Instances exist of the population of towns being in this situation. The greater part of the inhabitants of the estate of Bijoli were the *bussee* of its chief, who is of the Pramara tribe. They are his subjects. The only badge denoting the *bussee* is a small tuft of hair of the crown of the head. The term interpreted has nothing harsh in it, meaning occupant, dweller, or settler. The numerous towns in India called *Bussee* have their origin in it. Famine in the regions of Rajasthan is the great cause of loss of liberty; thousands were sold in one great famine. The predatory system of the Pindari and mountain tribes aided to keep it up. The Muhammadan slave girl is called *Bandi*, *Londi*, but when associating with their master is one of the *harām*. The *das* or slave may hold a fief in Rajasthan, but he never can rise above the condition in which this defect of birth has placed him.

Nafr.—In the west of Bengal the *Nafr* and his offspring were slaves for ever, and were transferable and saleable. In Purneya the *Nafr* was sometimes a domestic slave, sometimes an agricultural slave.

Slavery in British India is illegal. About the year 1811 a British officer in authority at Delhi abolished all forms of slavery. His name and the exact date have not been handed down. But by Act v. of 7th April 1843 slavery ceased to exist, by law, in any part of British India, though in many parts the people themselves have not yet freed themselves from their bonds, though public works and railways have greatly aided them. Act v. of 1843 appeared in consequence of information obtained by the Commissioners appointed to frame a code of Criminal Law. They reported that the proportion of slaves to freemen varied in number in different parts of British India as one-sixth, one-third, or two-fifths. On many estates most of the cultivators were slaves. 200 or 250 landholders had as many as 2000 slaves each. In Calcutta, most Muhammadan, Portuguese, Armenian, Parsee, and Jew inhabitants possessed slaves.

In the N.W. Provinces slavery was chiefly confined to the towns, and was generally of a domestic character.

In the hill districts of Kamaon, Garhwal, and in the whole border of the Himalaya from Kashmir to Assam inclusive, also in A-kan and the Tenasserim provinces, in all the territory border-

ing the Malay Peninsula, Penang, Malacca, and Singapore, slavery was everywhere common, and in some provinces included almost the whole of the labouring population. Throughout the Tamil country, as also in Malabar and Canara, by far the greater part of the labouring classes of the people had from time immemorial been in a state of acknowledged bondage. In only three districts of the Madras Presidency was this system of bondage unknown. In Malabar and Canara the labourer was the personal slave of the proprietor, and was sold and mortgaged by him independently of his lands. In the Tamil country the labourer was the slave rather of the soil than of its owner, and was seldom sold or mortgaged except along with the land to which he was attached. In every district of Telingana some sort of serfage or bondage and domestic slavery were then still existing.

In the southern parts of the Bombay Presidency, bordering on the Southern Mahratta country, adjoining Malabar and Canara, and in a few of the less civilised districts of Gujerat, there were agricultural slaves; but in the other districts of that part of India only domestic slavery prevailed, and that was confined to the towns and to the houses of people of importance. Comparing the above information, district by district, with the very imperfect estimates of the population, Sir H. B. F. Frere has estimated the total slave population of British India in 1841 at between eight and nine millions of souls. The slaves freed in the British colonies on the 1st of August 1834 were estimated at between 800,000 and 1,000,000, and the slaves in North and South America in 1860 were estimated at 4,000,000; so that the number in British India far exceeded that of the same classes in all the slave-holding colonies and dominions of Great Britain and America put together; and in that number those of Sind, the Panjab, Oudh, Nagpur, and Burma are not included, as these provinces have only since then been added to the empire.

The domestic slave of British India seems to have been treated at least as well as the hired servants. Self sale—of men selling themselves into slavery to secure a provision for old age, to obtain a wife, or to pay a debt—was an ordinary origin of the servile state, and this was not compatible with any prevalence of harsh treatment, and the prevalence of caste privileges aided to protect the slaves. With the Muhammadans the female slaves were liable to become concubines of their masters; but in most Hindu castes a stigma attached to such connection, and often prevented its open avowal. But every kind of service, both domestic and outdoor, was required of slaves.

The Commission further stated that slaves were both heritable and transferable property; they could be mortgaged and let to hire, and they could obtain emancipation only by their owner's consent, except in some special cases.

In Ramghur, in S. Behar, when petty disputes occurred, the slaves were habitually employed to commit crimes, such as theft and murder; and in Assam they were habitually employed in plundering and gang robbery.

Throughout Malabar the whole labouring agricultural population was servile, and the slaves were under fixed rules; could not approach a free-

man or his house within a certain number of paces, to avoid defiling the master or free fellow-labourers. The distance was 72 paces aloof from a Brahman, and 24 paces from a free-man. To carry out this rule, the slaves were required to give notice of their approach by uttering a peculiar cry at every four or five paces. If the cry were answered by a passenger of superior caste, the slave was required to quit the road and retire to a distance. The lower class of slaves were generally interdicted the highway, lest they should pollute the houses of the free labourers in passing them.

The punishments inflicted on slaves were not ordinarily severe. The prices paid varied from a single meal in famine times for a child, up to £20 given in Bengal for a handsome domestic slave girl; and African female slaves and eunuchs brought even higher prices. The sale of free female children by their parents, and of slave girls by their owners, for purposes of prostitution, was very prevalent, and kidnapping, with the same object, was frequent. In every province, from the Himalaya to Cape Comorin, stolen children formed part of the establishments of the Hindu temples. Such shrines were among the most sacred in India; such, for instance, as those of Jaganath at Puri, and of Ragonath in Cuttack, in both of which the salaried officials were the Deva-dasa, who, to the number of fifty or sixty families in Jaganath's shrine, were at the service of Hindu devotees, and formed a regular self-governing corporation, all with strict rules of admission and government.

In many districts in Bengal a very large proportion of the labouring agricultural population seems to have been in one or other form of conditional bondage. Slavery was kept up by the sale or gift by parents of children in time of famine, sale by mothers or maternal relations, sale of wives by husbands, sale of widows by heirs or relatives of deceased husbands, penal slaves, conquest of aboriginal tribes, self sale of adults in times of famine, marrying with a slave, kidnapping of female children; and the Megpunnah Thugs would murder parents wholesale, in order to obtain their children, who were sold for a few rupees each; and importation through Arabia of African slaves of all ages and both sexes, styled Habshi or Abyssinians; also the children of slaves were slaves.

After the great inundation of Saugor Island in 1833, children were commonly hawked about the streets of the town of Calcutta for sale.

The Sylhet and the Cachar tribes were long engaged in selling slaves; and the Law Commissioners reported that a slave could be bought for twenty packets of salt, value about six shillings.

Such was the legal condition up to 1843. There are many slaves in the Feudatory States, and the non-Hindu races in many of the villages of British India, the Pariah and tanner races, are little if any above the condition of predial slaves.

The Adavi slave of Canara is a serf, an unpaid labourer.

The Tamil and Malesalam Adima or Udima means any slave; a predial slave attached hereditarily to the land, and only transferable with it. In Malabar, amongst the Nair, it means a feudal dependent.

Adiyan, pl. Adiyar, is a slave, serf, or vassal in Malabar; a low-caste man under the protection of a raja or a religious establishment.

The Wakkalu Jamadalu, in Coorg, is a predial slave attached to the revenue lands. They are the personal property of the proprietors, and may be sold or mortgaged at pleasure.

The Bhumi Jamadalu slaves are attached to the land, and transferable with it.

In Malabar the Kanukan or Kanaka charma are predial slaves, supposed to be a subdivision of the Palayar.

Charumar are predial slaves, whose name Wilson derives from Chera, MALEALAM, the soil. They follow the rule of Maruma-katayam. They are very diminutive, with a very black complexion, and not unfrequently woolly hair.

The Mukkavan is a fisherman caste of Malabar, also called Makwa, and their women Makoti.

The toddy-drawer of Malabar is called Katti Kanan.

The Panni Malayan are a servile caste of Malabar.

The Pulichi is a forest tribe in Malabar, who are deemed so unclean that they are not allowed to approach other castes.

The Uradi or Uruli of Malabar are a servile race.

The Tiyar race in Malabar are toddy-drawers and agriculturists.

The Palayan, Pulian, or Pullar of Malabar is a servile caste, often slaves.

Balute, in the Mahratta countries, means the village officers, several of whom are predial slaves, as the Mhar, Holeyar or Dher, and Mhang.

Badava-hrita is a female slave; also a man who becomes a slave that he may marry a female slave in the family.

Banda, a Muhammadan slave; Bandi, a slave girl.

Ana-kala-bhrita is a person who has voluntarily become so at a season of famine.

In the Tamil countries about Chingleput the Alandadey are a class of slaves.

In many of the countries bordering on British India, the martial and predatory tribes regard tillage as beneath their dignity, and leave the cultivation of the soil to helots. In 1883, in the Chittagong Hill tracts, slavery or vassalage in its broadest sense prevailed throughout the hill tribes. The Rowaja or dewan, who is head of the village, owns his clan. They cannot disown his authority, their names are entered in his books; they pay him poll-tax wherever they go, must work for him, and make him the first offerings of their produce. They have been bondsmen for generations, and the links are never severed until death takes them away, or they abandon their homesteads and leave the country. Rowajas or dewans in their turn own allegiance to their chief, to whom they pay the largest share of the poll-tax. The condition of these tribes was very lamentable before Government took possession of the hills. The people were sold at the mere will of the chiefs or headmen; and although this has been abolished, serfdom still prevails in the form described. Sir Lepel Griffin, writing in 1883, says he remembers the time when the Ohamba peasants were little better than slaves, and widows were publicly sold in the market-place as ordinary source of revenue to the state.

With Muhammadans, whose creed sanctions polygamy, and with them the Chinese, whose domestic customs necessitate prolonged isolation, slavery and concubinage are difficult to be avoided.

There are many kinds of slaves in Assam distinguished by distinct appellations. The *Moorukea* is a kind of *Chapinea*, neither servant, slave, nor equal, but partaking of all. The master provides the Moorukea with a pair of bullocks and a plough, and he tills his master's land for two days. On the third day the Moorukea may plough his own ground with his master's bullocks and plough.

Arakan.—The plundering expeditions of the tribes of the interior of Arakan are chiefly to obtain slaves. The village attacked is surrounded at night, and generally set on fire, or a volley of muskets is fired into it, and the inhabitants are seized as they attempt to escape from the burning houses. The males are put to death, and the women and children carried away into slavery. In the distribution of the slaves and plunder, the leader receives a double share. For the release of a captive thus taken, a ransom of Rs. 200 is generally demanded.

The Malays have two kinds of slaves, the ordinary menial creature, originally non-Muhammadan, and the debtor slave. When a debtor fails to pay his debt, the creditor is entitled by Malay law to remove him and his family to the creditor's house or grounds, where they all become part of his household. They work for him without pay, and without credit given for the labour in reduction of the debt. The usual result is that the debt, with the enormous interest commonly charged, is never paid off, and the bondage becomes lifelong. On the death of the debtor the family remains liable for half the debt, and so continues in slavery. Such is the strict law. In practice, it gives rise to gross abuses. The creditor sometimes gives the debtor's daughters in marriage, pocketing the sum which the Malay bridegroom pays for the virtue and charms of his bride. Sir James Brooke mentions with strong indignation the case of a man to whom 16 reals were due, selling his debtor's daughter to 'a person of influence' for 30 reals. That English raja put down debtor slavery in Sarawak before he had been long there. The late raja of Kedah, a principality adjoining one of our settlements, certainly did the same thing a few years ago; and Mr. Davidson got it abolished in Selangore during his brief residency there about the year 1876. There is no good reason why slavery in any form should be tolerated in British Malay possessions.

A correspondent, dating 2d February 1882, from the Straits, writes of debt slavery in Perak being then in existence. He says, 'Numbers of grey-haired men and women could be found still in debt slavery in Perak.'

In the Netherland Possessions in India, slavery was abolished about the middle of the 19th century. Slavery still exists in China, and the sale of female children, usually from poverty, is of frequent occurrence.

All along the littoral, from the Red Sea through Sind to the Peninsula of India, are descendants of slaves from Africa and Arabia. They are known as Habshti, and in the plural

Habush, and at Muhammadan courts they were the household troops.

The slaves of the Brahui are of two classes, Negroes brought from Muscat, and the descendants of captives made in the wars with the people of the western provinces of the country, as Kej, Turbat, etc.; some have, at various times, been brought from Kashmir and the eastern provinces of Persia. These in colour and features in no respect vary from their masters, and some of the females are remarkably handsome. They are better treated than their Negro associates in bondage, and less onerous duties are assigned to them. Few of the Negroes, and those only who are really useful, are even decently clad; and it is common for them so to multiply, that their masters, from inability to clothe and feed them, dismiss them to provide for themselves in other lands.

The Afghans have supplied themselves with captives from the Siah Posh Kafir tribes of the mountain race in Kafiristan. But Arabia, Egypt, Southern Persia, Baluchistan, Sind, and Peninsular India have been chiefly supplied from East Africa, from the Soudan southwards to Madagascar, most of the eunuchs in S. Asia being from that region. The slave traffic of this region seems to have gone on from pre-historic times, and it was chiefly from the western coast of Africa that European and American nations obtained the slaves whom they employed in agriculture and as domestic servants.

The Turkoman races in High Asia, as also the Hazara races, continuously at present (1883) make raids on the Persians and on their own tribes, and seize on men, women, and children for sale. The border Persians are more than others harassed in this way, and they are admitted into the slave markets of Central Asia, because bigoted Sunni Mullah have declared the Shiah sect not to belong to Islam. Shams-ud-Din Herati, a celebrated lawyer, is said to have been the chief promoter of this legal decision (*fatwa*). Slave-dealing, from immemorial times, has been practised in the northern provinces of Persia. It is conducted by the Turkomans as a regularly organized traffic, which diminishes as the distance from the Turkoman frontier is increased. They were carried on chiefly by the Tekke and Yomut tribes, the victims of the Tekke being the settled inhabitants of the frontier regions of Khorasan, Herat, Seistan, up to West Afghanistan, while the Yomut infest chiefly the southern shores of the Caspian. The Ali-Ali and the Kara occasionally capture caravans on their way to Bokhara. As the Chandor tribe live between the Lower Amu (Oxus) and the Caspian, they can only occasionally capture a few Kirghiz or Khivans. They treat the captives with such great cruelty as even to shock their neighbours. The great proportion of the slaves taken by the Turkoman and Uzbek are Shiah Persians, but they capture also Sunni of Khaf and Herat, also a few Jamshidi, and some Hazara and Western Afghans. The captives are handed over to the slave merchants in exchange for needed supplies. The slave-traders of Central Asia are seldom Uzbaks, but usually Tajaks or Sarts, with a few Persians; and their principal marts are at Karakol, Karshi, Charjui, and Bokhara. There are, however, other dealers who are employed by friends to ransom the slaves. By the custom of Muhammadan

countries, a servant marrying a slave becomes also a slave.

Owing to the Russian advances and the interference of Britain in the affairs of Afghanistan, the slave area in Central Asia has been gradually diminished, until it is only composed of the country lying between Herat and Merv, and between Herat along the slopes of the Hindu Kush to Badakhshan. In Sher Ali's time the khanates of Afghan-Turkestan used to supply the Amir with a periodical consignment of women and boy-slaves as tribute. Mr. Schuyler also, during his journey through Bokhara in 1873, discovered evidence of secret dealings in women and boys in defiance of Russia's prohibition to the contrary.

A writer attached to the staff of the Turkestan-ski Vedemosti compiled a chronicle of the number of Russian slaves who had been at various epochs detained in Central Asia. The aggregate total amounted to some thousands.

Many generations have passed away since the Tartars sacked Moscow and Kieff, and carried off men and women into bondage in Asia; but old men are still living in South Russia whose fathers were bought and sold in the Tartar slave markets of the Crimea; and both in the Caucasus and at Orenburg may be seen middle-aged men whose youth was spent in bondage in Khiva and Bokhara. The gunner Kidneff, captured from the garrison at Fort Petro Alexandrovsk on the Oxus shortly after the Khivan campaign, and taken as a slave to Merv, was perhaps the last of the long list of Russian unfortunates whose tears have moistened the sands of Central Asia.

When Major Abbott visited the khanate of Khiva in 1841, upwards of 700,000 persons out of a population of 2,468,500, or 1 in every 3, were slaves. In the city of Khiva alone were 12,000 Herati and 30,000 Persians, the rest of the bondsmen being scattered about the country as tillers of the soil. Writing of the same period, Wolff, the missionary, calculated that out of the 2½ millions composing the population of Bokhara, 200,000 were in a state of bondage. Burnes, another traveller, observed of a Bokharan village near the Oxus in 1832, that 'though not boasting of more than 20 houses, there were yet 7 or 8 Persian slaves.' To capture these slaves was a regular pursuit on the part of the nomadic tribes living adjacent to Khiva and Bokhara. The Khivans annihilated the expedition that Peter the Great despatched against them under Prince Bekovitch-Tcherkassky; and, more recently, the Tekke-Turkomans of Merv captured 20,000 Persian soldiers in 1861 just outside their stronghold, and glutted the market to such a degree that the price of an able-bodied man fell to a pound.

The alaman or Turkoman raiding expeditions may be said to have received a death-blow when the Russians breached the walls of Goek Tepe. Already, years before, the slave market had been closed at Khiva and Bokhara by the Russian invaders; and the task they have achieved, of suppressing slavery outside Afghanistan and Merv, might rival the costly exertions of Britain on the African coast and in the Pacific.

Slave Trade.—Until the early part of the 19th century, Great Britain permitted her colonies to retain slaves, but from the efforts of Wilberforce,

Clarkson, and others, Britain then abolished slavery in her colonies, as had already been done in the British Islands. Until after the middle of the 19th century, the United States of America held in slavery about five millions of the African races and their descendants of mixed blood, but the slave law was then changed after a civil war in which great numbers of men were slain. During the 19th century, Britain made vast and costly efforts to suppress the slave trade from the west coast of Africa, but till 1884 it continues on the east side of Africa, principally carried on through Arabs and Hindu natives of India.

The Hindu races have been settled as traders on the east coast of Africa from the most ancient known times. When the Portuguese first doubled the Cape, they found Banya traders established at every great port, and it was from them that Vasco da Gama and his successors learned the secret of the easy approach to India by the aid of the monsoons. They have held in their hands the trade of the east coast of Africa, and are still to be found as far south as Delagoa Bay. All the trade between that coast and Europe, America, or Asia passes through the hands of some branch of the Banya community, purchasing goods wholesale from the European or American importer, and selling them in retail for the interior. They are of the Bhattia and Banya tribes of Hindus, and the traffic is shared by the Khojah and Borah Muhammadans; and in 1872, a merchant, Mathur Das Khetsi, writing in the *Rast Guftar*, stated that from 10,000 to 20,000 slaves passed yearly through Kelwi on their way to Suahili and Arabia. The E. African slave trade by that year had depopulated much of the sea-coast line. To the south of Pangani is the territory of the heathen Wasegua tribe, and the great centre of the traffic. The Arabs of Zanzibar come here, and for muskets, powder, and shot purchase the slaves from the Wasegua chiefs.

The Red Sea slave trade appears to be of an exceptionally revolting nature; nine-tenths of the unfortunate victims are obtained from the southern frontiers of Abyssinia, where an incessant series of border quarrels afford a plentiful harvest to the kidnapper. As a rule, only children are thought worth capturing in these forays, and as the free and independent spirit of the Galla race renders them unfit for domestic or menial service, the males are immediately emasculated and disposed of to the slave merchants. The slaves captured in the Western Galla countries are usually brought to Massowa by way of Matemina, where there is annually held a large 'rakik' or market, whilst Zaila is the principal emporium for those brought from the Eastern Gallas through Shoa, the Christian inhabitants of which country take an active part in the trade. At Massowa a large traffic in slaves goes on, and from Zaila and Tajura; these last situated opposite to the Galla and Shoa territory, on the south-west corner of the Gulf of Aden. In 1873 the governor of Massowa was Munzinger Bey, a Christian, who was not supposed to profit by or even countenance the revolting traffic. At Massowa, as at other places where this illicit traffic flourishes, legitimate trade is almost at a standstill.

The male black slave is in Arabia (and other eastern countries) treated with more consideration than the free servant. If discontented with his

situation, he can legally compel his master to sell him. It has been frequently observed that the black slaves are generally greater fanatics than their Muslim masters, and that they are, as a rule, totally ignorant of the doctrines in the defence of which they are so zealous. Through the depopulation of the line of the coast the slave trade has extended farther and farther inland, till in 1870 slaves were being brought from the west of Lake Nyassa, on which the Arabs had dhows to carry their captives across, traversing a distance of 500 miles, a three months' journey, during which the sick are left behind to die, and any hesitation is met with instant death. The Manyema, a cannibal nation, are constantly attacked by the Arab slave-traders. The Manyema are honest, industrious cultivators. Their women do not partake of the cannibal feasts; many of them, far down Luaba, are very pretty, bathe three or four times a day, and are expert divers for oysters. The men are fine tall fellows, not like Negroes; they use long spears, and are only conquered by the Arab firearms.—*Butler's Travels, Assam*, pp. 228, 229; *Dalton's Ethnol. of Bengal*, p. 114; *Times of India*; *The Madras Mail*, 14th May 1873; *Tod's Rajasthan*; *Slavery*, by Sir H. B. E. Frere, G.C.B., in *Fortnightly Review*, March 1883; *Wilson's Glossary*; *Masson's Narrative*; *Dr. Livingstone*; *Mr. H. A. Fraser*; *Dr. Kraff*; *Col. Rigby*; *Mr. Allington*; *Rev. Horace Waller*; *Hon. C. Vivian*, in the *House of Commons Report*, 1872; *Sharpe*; *Vigue's Per. Nar.* p. 145; *Court's Palembang*, 124.

SLAVONIAN and Slavonic are terms applied to races and their languages now found in the east of Europe and all Turkestan eastwards to the China Sea. The Slavonian and Sarmatian dialects comprehend the languages of eastern Europe, Russian, Polish, Bohemian, and the dialects in the greater part of Europe subject to the Turkish empire. Of the Slavonic languages, properly so called, the eastern branch comprehends the Russian with various local dialects, the Bulgarian, and the Illyrian. It is one of the Aryan tongues.—*Muller's Lectures*, pp. 187, 188.

SLEEMAN, GENERAL SIR WILLIAM, an officer of the E. India Company's Bengal army, who discovered the practices of the Thugs, and was appointed by Lord William Bentinck to undertake their suppression. He was long Resident at Lucknow, having previously been Political Agent at Gwalior. He wrote *Rambles and Recollections of an Indian Official*.—*Dr. Buist*.

SLEEPING HOUSES for the unmarried young men and girls, the lads apart and the lasses apart, are in use among the Bor and Bor Abor and others of the races in Assam, Sirgaja, and in the Eastern Archipelago. In Fiji there are two kinds: those in which the men sleep (*Buri ni sa*), and those dedicated to the gods (*Bure kalow*). The sleeping bure may aptly be compared to the European clubs. In buildings or bure like these, all the male population, married, sleeps. The boys, until they have come of age, erect a bure of their own, often built on raised stages over the water, and approachable only by a long narrow trunk of a tree. The women and girls sleep at home, and it is quite against Fijian etiquette for a husband to take his night's repose anywhere except at one of the public bure of his town or village, though he will go to his family soon after dawn.—*Galton's Vacation Tourists*, pp. 253, 254.

SLEINANACHD. GAELIC. The Muhammadans in India often cast lots, and in Sind is a practice similar to that of the mountaineers of Scotland, called Sleinanachd, or 'reading the spear-bone' or the blade-bone of a shoulder of mutton. The poet Drayton alludes to the practice of this 'divination strange' amongst the 'Dutch-made English' settled about Pembroke-shire, in his *Polyolbion*, Song 5. Camden notices the same superstition in Ireland.—*Burton's Scinde*, p. 404; *Tod's Rajasthan*, i. p. 71.

SLIPPERS.

Pantoufle,	FR.	Pai-posh,	PKRS.
Pantoffel,	GER.	Ohinele,	SR.
Juti, Jora,	HIND.	Papocs, Sapata, . .	TAM.
Pianella,	IT.		

In Turkey, Egypt, amongst the Persians, and throughout British India, Muhammadans and Hindus take off their boots or slippers when they enter into a mosque or temple, or visit the shrine of their holy men, the Muhammadans giving as a reason that Moses was commanded by God to leave his slippers on approaching the burning bush, because he was treading on holy ground. In Persia, a native never enters a room in boots or slippers; and when a foreigner attempts any transgression of this usage, it is looked upon as the height of ill-breeding, if not quite a premeditated insult. In some cases, where it has been intimated, reasons of policy have compelled an apparent toleration of the objection, by providing the expedient of receiving such visitors in the open air, but the necessity is always remembered with repugnance to the exactors. The custom of leaving the outward covering of the feet at the door is of very ancient practice all over the east, and especially so when the place to be trod on is connected with any religious ideas. We find it recorded so far back as in the Book of Exodus (iii. 4, 5), at the account of Moses turning aside to observe the burning bush, where it is written, 'The Lord called to him, and said, Put off thy shoes from off thy feet; for the place whereon thou standest is holy ground.' And again, we read in the Book of Joshua, that when that great captain of Israel was encamped in the plain of Gilgal, the same Divine Being appeared to him, and said to him also, 'Loose thy shoe from off thy foot; for the place whereon thou standest is holy. And Joshua did so.' In British India, about A.D. 1860, the richer Hindus and Muhammadans who visited amongst Europeans, began to wear patent leather shoes or boots to obviate the necessity of taking off their slippers; but at native courts and at their places of worship the visitor enters either on his bare feet or on his stockings. It is a part of the customs of eastern races, from which they never deviate amongst themselves.

SLOKA, a Sanskrit word. A couplet from a *Shastra*; a stanza or verse of four lines. The Malays probably derived the term for their poetry styled 'Shair' from the Arabs, and that of 'Sloka' from the Hindus. The origin of the Malay word *Pantun* is not so easily decided from its name; one word used is *Bar-beit*, which is from the Arabic *Bait*, a couplet; but perhaps *Pantun* itself is a Malay word.—*J. I. Arch.* v. No. 11.

SMALL-POX—*Jadari*, ARAB., *Mata*, *Sitla*, HIND., *Amur*, TAM., *TEL.*—is regarded by the Hindus as a manifestation of the Hindu goddess

called *Maria-tal*, *Mari-amma*, *Devī*, *Mata*, or *Sitla*, who is supposed by them to be a form of *Kali*, the wife of *Siva*. In the south of the Peninsula, the person affected is removed to a separate room. A pot filled with water is placed in the room with the patient, covered over with a saffron-stained cloth and leaves of the *nim* tree, representing the goddess. These leaves are also sprinkled about the bed of the person infected, who uses the tender twigs of the same tree to relieve himself from the irritation occasioned by the pustules, which, when they become sore, are smeared over with a paste made from the leaves. No strangers or unclean persons are allowed to enter the room where the patient is, both being considered at the time sacred. No *pūja* is allowed to be performed with the ringing of bells, so that the patient may not be disturbed. Oil is not allowed to be used by members of the family when ablutions are performed, it being considered a non-conductor of prurient matter; and any one who has been shaved is also prohibited entering the room. No diet is observed,—curds, butter-milk, curry, and rice, and any other articles of food which the patient may desire, are given. When the patient recovers, widows are invited, and fed and clothed; little images called *sellay*, in the form of horses, are made of clay or stone, and placed near the *Iyengar* or tutelary god's temple. The *Sudras* offer rams, fowls, and *rāgi*, and *ambali* or *kulu* is distributed among the poor. When small-pox makes its appearance in a village, men and women give out that the goddess *Maria-tal* has come upon them. They then dress themselves out fantastically, generally in saffron-stained cloths, and carry on their heads a pot of water, with two or three smaller pots over it, one upon the other. These pots are ornamented with saffron and ochre, and garlands are suspended from them, amongst which several lines are fixed. The bearers of these pots carry in their hands a small drum (*Ooduku*), which they beat with their hands. Some also dance, and with wonderful skill retain the burden on their heads. As they pass through the streets they stand before each house, the residents of which come out and pour water on the feet of the bacchantes, and present them with money. In the Malayalam and some other districts, so soon as a person is attacked with the disease, he is taken out of the village to a distance of a mile or more, and left in a thatched building, to which food is sent by a miserable old man or woman; and so afraid are they of the ravages of the complaint, that no one else will approach the place. In Ceylon, amongst the avenging scourges sent direct from the gods, the Singhalese regard both the ravages of the leopard and the visitation of the small-pox. The latter they call '*maha ledde*,' the great sickness; they look upon it as a special manifestation of deidomasy, 'the displeasure of the gods.' In Ceylon, such is the awe inspired by this belief in connection with the small-pox, that a person afflicted with it is always approached as one in immediate communication with the deity; his attendants address him as 'my lord' and 'your lordship,' and exult on him the whole series of honorific epithets in which their language abounds for approaching personages of the most exalted rank. At evening and morning, a lamp is lighted before him, and invoked with prayers to protect his family from the dire

SMALTE.

calamity which has befallen himself. And after his recovery, his former associates refrain from communication with him until a ceremony shall have been performed by the capwa, called *awasara-pandema*, or 'the offering of lights for permission,' the object of which is to entreat permission of the deity to regard him as freed from the divine displeasure, with liberty to his friends to renew their intercourse as before.

Sir J. E. Tennent says leopards are strongly attracted by the peculiar odour which accompanies small-pox. About the middle of the 19th century, the capwa, or demon priest of a 'dewale,' at Oggalbadra, a village near Calcutta, when suffering under small-pox, was devoured by a cheeta, and his fate was regarded by those of an opposite faith as a special judgment from heaven.

Masson says (Narrative, pp. 307-319) that persons milking a camel ill with small-pox contract what is called the *poto-shutar* or camel small-pox, and become also inaccessible to various contagion equally with those who receive the analogous disease from the cow. He was assured that no fatal results were ever known to follow from either the vaccine or the cameline disease.—Tennent's Ceylon, p. 28; Masson, p. 307.

SMALTE.

Smalt, Fr. 'Smaltino, It.
Schmalz, Ger. Laseur, Rus.
Smalto azzurro, It. Esmalte, Azul-azul, Sp.

An oxide of cobalt, melted with silicious earth and potash. It is a sort of glass, of a beautiful deep blue colour; and, being ground very fine, is known by the name of azure or blue powder. It is in great demand for the painting of earthenware, in the colouring of paper, and for other purposes in the arts. Smalt is manufactured in Germany and Norway. The Chinese use it for painting on porcelain and glazed copper vessels.—Morrison; McCulloch.

SMARTA BHATTACHARYA, author of the law book *Vyavahara Tatwa*.

SMARTTA, a sect of the Brahman race of India, followers of Sankaracharya. They adhere to Sankaracharya's doctrine of unity, according to the Vedanta philosophy, but they specially honour Siva. They hold a high place in Hindu society. Their chief establishment is at Srivagiri. The sect regard Brahma and Vishnu as manifestations of Siva, and Siva or Para-Brahma, the supreme, or rather the universal, spirit; they mark their forehead with three (sometimes only one) horizontal lines of pulverized sandal-wood, with a reddish or blackish round spot in the centre.

SMASAN or Smashanam. SANSK.

Kudra bhumi, San., Tel. | Shudukadu, Tam.
The place of incineration of the Hindu dead, the place where bodies are burned; temples of Durga in some of her terrific forms are usually erected in or near it, and monuments of stone or brick are not unfrequently reared where the funeral pile has stood.—Hind. Theat. ii. p. 55.

SMILACINA is a pot-herb growing in Tibet, north of Kanchinjinga. It is a beautiful plant, from two to five feet high, and has plaited leaves and crowded panicles of white bell-shaped flowers, like those of its ally the lily of the valley, which it also resembles in its mucilaginous properties. It is called Choklibi, and its young flower-heads, sheathed in tender green leaves,

SMILAX LANCEÆFOLIA.

form an excellent vegetable.—Hooker's Himal. Journ.

SMILAX, a genus of plants which gives its name to the natural order Smilacaceæ. They extend south to Australia, and north to Japan, North America, and the S. of Europe. S. China has a tuberous root abounding in fecula; the Chinese esteem it invigorating, and ascribe to it other virtues. Two Indian species, which, like the Chinese species, have tuberous roots, are called in Sylhet, Hurina-Shook-China and Gootea-Shook-China. These are S. glabra and S. lanceæfolia, and their roots cannot be distinguished from Chob-Chini, the China root. A similar species is common in the southern parts of North America, and has been called S. pseudo-China. Among Indian species are—

S. elegans, Dehra Doon.
S. glabra, Roxb., Garo Hills, Sylhet.
S. randifolia, Linn., Konkana, Dekhan, Bengal.
S. grandis, Wall, — ?
S. lanceæfolia, Roxb., Sylhet.
S. maculata, Roxb., Nepal, Kumaon, Mussoori.
S. ovalifolia, Roxb., Konkana, Bengal.
S. prolifera, Roxb., Rajmahal, Bengal.
S. pseudo-China, Linn., Virginia, Jamaica, Garo Hills.
S. retusa, Roxb., Bengal.
S. Roxburghiana, Wall., Garo and Khasia mountains.
S. villandii, Morung Hills.
S. Zeylanica, Wight, Ceylon.

S. Roxburghiana or 'Koomare-Shook-China,' and S. oxyphylla or 'Chotee or small Koomaree;' S. rigida and S. ferox are Nepalese species. There are two or more species of Smilax in the Tenasserim jungles, one of which is used as medicine, to supply the place of a species of sarsaparilla, whose dried roots are sold in the bazars.—O'Sh.; Eng. Cyc.; Dr. Mason.

SMILAX CHINENSIS. Linn. China root.

Smilax China, Linn.	Rassa, Sugandainula, San.
Shook-China, Beng.	China-alla, SINGH.
Taein-ayho-ta-roup, BURN.	Poringay, TAM.
Tu-fu-ling, CHIN.	Gali chakka, TEL.
Obob-Chini, HIND.	Pirangi chakka, "

Dr. Smith applies the above Burmese and Chinese names to the tuberous root of *Pachyma cocos*. S. Chinensis grows wild in China, from which it is exported to Burma and to India; and the root is one of the China roots of the bazars. It is largely imported into Calcutta from the eastward, and much employed by native practitioners. The China root which comes to Ajmir via Bombay, is taken as an aphrodisiac in milk; one tola is a dose; used also in mesalins. Natives suppose that this is the root of the Hazari marigold, *Tagetes erecta*, after being in the ground three years.—O'Sh.; Gen. Med. Top.; Smith.

SMILAX GLABRA. Roxb. Gootea-Shook-China, Beng. A climber with a large tuberous rhizome, a native of Sylhet, the Garo Hills, and the adjacent country. The stem and branches are thornless; leaves lanceolate, pointed, pale-green beneath. The root is identical in appearance with the China root of commerce, and the natives use it in decoction for the cure of sores and syphilitic eruptions.—O'Sh.

SMILAX LANCEÆFOLIA, Roxb., not S. lanceolata, Wall. and Loureir., is Hurina-Shook-China of Bengal. The leaves are lance-shaped and three-nerved, umbels stalked. Its large tuberous roots are much used by the natives of India in medicine.—O'Sh.

SMILAX OVALIFOLIA. *Roxb.*

Koomarika, . . .	BENG.	Konda tamara, . . .	TEL.
Ku-ku, . . .	BURM.	Kistapatamara, . . .	"
Wild sarsaparilla, . . .	ENG.	Konda gurava tige, . . .	"
Kari vilandi, . . .	MALEAL.	Kummara baddu, . . .	"
Krin koddly nar, . . .	TAM.	Konda dantena, . . .	"
Sitapa chettu, . . .	TEL.		

A plant of Bengal and the Konkans, used for tying bundles.—*Mason; Spry's Suggestions*, p. 68.

SMITH. George Smith, an oriental scholar, who died in the autumn of 1876. Nothing could surpass the effect his paper, which was read on 3d December 1872, on The Assyrian Account of the Deluge, had on English Assyriological inquiry. The scientific journals took it up as a triumph of philological research, and the Daily Telegraph offered to send him out to search for more material. Accordingly he left England in January 1873, and on 3d March he gained his first view of Nineveh. Full accounts of this and the succeeding expedition in 1874 and 1875 have been published. The importance of his inspection of the sites of the palaces of Sennacherib and Assur-Banipal, and the survey of the ruins of Nineveh, cannot be overvalued. He was the first excavator who was able to read the records which he uncovered. He discovered a small fragment of a tablet containing the legend of the creation of the cattle and insects. This led him to search among the tablets in the British Museum, and in March 1875 he announced to the world the discovery of the Chaldean legends of the Creation. The remainder of the year was occupied in the copying and translation of these texts, and the result was given in his last and famous work, The Chaldean Account of Genesis. This was the first English work on Assyriology that had been translated into any foreign language.

Lieut.-Gen. Sir Harry George Wakelyn Smith, Bart., G.C.B., born 1788, died 1860. He entered the British army in 1805, and served against Monte Video, Buenos Ayres, and Copenhagen. He was present in the battles of the Peninsular war and at Waterloo, and in 1835 against the Kafir tribes. In 1839-40 he was appointed Adjutant-General to the Forces in India, and was present at the battles of Gwalior and Maharajpore, for which he was nominated a K.C.B. In the Panjab campaign of 1845-46, he was in command of a division at Moodkee, and of the reserve at the battle of Ferozpur, where he supported Sir John Littler in his charge upon the guns of the enemy. A few days later, the Sikh forces crossed the river Sutlej, near Ludhiana, and took up their position at Aliwal, on which Lord Gough despatched Sir Harry Smith, with 7000 men and 24 guns, to relieve Ludhiana. On the 28th of January 1846, Sir Harry Smith led the main charge in the battle of Aliwal, carrying that village at the point of the bayonet, and capturing all the enemy's guns, to the number of 67, a success which enabled him to come to the assistance of the commander-in-chief, and to join in the final and crowning victory of Sohraon (February 10), which crushed the last hopes of the Sikh leaders and their troops, and secured the possession of the Panjab to the British forces. He received the thanks of the House of Lords, was presented with the freedom of the city of London, and the thanks of the

Honourable East India Company; was created baronet, and advanced to the dignity of a G.C.B. In September 1847 he was nominated to the governorship of the Cape of Good Hope. He conducted the operations of the Kafir war of 1851-52, until succeeded by Sir George Cathcart.

Sir Lionel Smith in 1821 commanded an expedition against the pirate tribes in the Persian Gulf.

Colonel Richard Baird Smith, an officer first of the Madras and subsequently of the Bengal Engineers. He was born in the year 1818, at Lasswade near Edinburgh, on the banks of the Esk; in 1838 went to India in the Madras Engineers, from which in 1839 he was transferred to the Bengal corps. From 1840 he was employed in the canal department under Sir Proby Cautley, served with Sir Harry Smith at Buddihal and Aliwal (1845?), and in 1848-49 under Sir Colin Campbell (Lord Clyde) at Rannuggur, and afterwards at Sadullapur and Gujerat. In 1851 he went to Piedmont and Lombardy to study their system of irrigation. He was chief engineer at the siege of Dehli; died in the Madras roads in 1859. He established a Museum of Economic Geology for N.W. Provinces, Bl. As. Trans., 1831, x. p. 779. Author of Memoir on Indian Earthquakes, *ibid.*, 1841 and 1843; and Edin. New Phil. Jl., 1842, xxxiv. p. 107. Wrote an Account of the Delta of the Ganges, Cnl. Jl. Nat. Hist. iii.; and on the Irrigation of the N.W. Provinces, pamphlet, 8vo, 1849.

SMITHIA SENSITIVA. *Ait., Roxb.*
Kul kushanda, . . . BENG. | Muryaku ponna, . . . TEL.

An annual with small yellow flowers, makes good hay.—*R. Brown.*

SMRITI, SANSK., is the body of the recorded or remembered Hindu law, the ceremonial and legal institutes of the Hindu traditions. Dowson describes it as inspiration as distinguished from Sruti or direct revelation. He says the term includes several religious works of the Hindus, the Vedangas, Sutras, Ramayana, Mahabharata, the Puranas, Dharma-Sastras, especially the works of Menu, Yajna-walkiya, and other inspired law-givers, and the Niti Sastras or ethics; but its ordinary application is to the Dharma-Sastras; as Menu says (ii. 10), by Sruti is meant the Veda, and by Smriti the Institutes of Law.—*Dowson.*

SMUT or Dust Brand, *Uredo segetum*, Sialh, HINDI, is a disease produced in wheat by a fungus, and is said to infect chaff, straw, seeds, and leaves.—*Hassal.*

SNAKE BIRD, *Plotus melanogaster*.

SNAKE-BITE. In British India, in the six years 1876-1880, 1,073,546 snakes were destroyed, over 103,000 persons died from snake-bite, and Rs. 6818 were given in rewards for killing above a million of snakes. For our knowledge of the nature and effects of snake-poisons we are indebted to Surgeon-General Shortt; to Sir Joseph Fayer's work on the Thanatophidia; to a Report on Indian and Australian snake-poisoning by Drs. Ewart, Richards, and Mackenzie; to the investigations of Drs. Halford and Weir Mitchell in Australia and America; and to a volume by Dr. Wall of the Indian army.

Dr. Halford, of Melbourne, advanced the theory that in snake-poisoning germinal matter was thrown into the body, together with the virus,

which rapidly developed and multiplied, the process going on at the expense of the oxygen; and he described some cells in the blood which he believed were evidence of his proposition. These cells, however, were afterwards proved to be the ordinary white blood corpuscles. Sir Joseph Fayrer finding that the blood after death from the bite of the viper (*daboia*) remained fluid, while after the bite of the cobra it quickly coagulated, supposed that death is due to some important changes in the blood. Dr. Wall is unable to accept either of these theories, and, while admitting a serious change in the condition of the blood in viperine, but not in cobra, poisoning, he attributes the cause of death to disturbance of the nervous system,—in the case of cobra poisoning to paralysis of the respiratory function, and in viperine poisoning to convulsions due to the direct action of the poison on the nervous system, and not to carbonic acid poisoning from failure of the respiration.

Surgeon-General John Shortt, a medical officer of the Madras army, recommends liquor potassæ internally for the cure of persons wounded by poisonous snakes. Surgeon-General Sir Joseph Fayrer of the Bengal army recommends liquor ammoniæ. All stimulants are useful,—spirits, and the essential oils of cinnamon, peppermint, etc. Dr. Wall is urgent for the entire removal by the knife of all the poisoned structure before the venom can be absorbed into the system. This, however, requires the skilled eye and hand of the surgeon, and time is not given, because the whole blood of the body passes through the heart in three minutes. The virus of snakes does not owe its peculiar properties to germs, but it is a perfectly structureless plasma, whose physiological action is little influenced by such materials as carbolic acid, and it retains its poisonous properties after being heated for an hour to a temperature of 224° 6" Fahr., a temperature which it is hardly probable organic germs could survive. On the other hand, the disinfectants, which act by destroying organic compounds, such as chlorine, sulphurous acid, and chloride of zinc, have a marked effect in weakening the activity of the virus; while the permanganate of potash—better known by the name of Condy's fluid—completely suspends it by parting with its oxygen and decomposing its albuminous constituents.

Dr. Wall found no benefit accrue from the injection of ammonia or the permanganate of potash into the blood, nor does he speak encouragingly of giving large quantities of alcohol to the extent of producing intoxication.

As about 90 per cent. of snake-bites occur on the arms and legs, great importance is attached to the immediate application of a ligature to the limb above the seat of the wound. Dr. Wall thinks that the common mode of tying a piece of string or calico round the limb often fails to stop the circulation, and recommends as a substitute a piece of india-rubber bandage, similar to Es-march's, employed by surgeons for bloodless operations.

The mongoose is the natural enemy of the snake, and although it seems to be as tameable as the cat, its depredations on the poultry yard will always prevent it taking the place of the cat in the Indian household. Mothers also dread lest their sleeping children be attacked.

Aristotle tells us that serpents may be driven away from a house by the smell of rue. Pliny says that the root of the holm-oak is an enemy to scorpions, and that of the ash to serpents, which, moreover, will not retire under fern. Serpents may be driven away by the burning of hair or stag's horn, or the sawdust of the cedar, or a few drops of galbanum, green ivy, or juniper; and persons rubbed with juniper seeds are said to be secure from hurt by serpents. See Serpents.

SNAKE-GOURD, *Trichosanthes anguina*, a curiously contorted gourd, peculiar to India, and in very general demand for vegetable curries. The plant is of easy culture on trellises around the doors of the native cabins, and the fruit often grows two feet long, beautifully striped, small, and tapering, so, that straining down from the trellis, they immediately remind one of striped snakes suspended from the foliage of trees. The viper gourd is *Tr. colubrina*.—*Mason*.

SNAKE-HEADED FISHES, *Ophiocephalidæ*, breathe atmospheric air direct; so, when pollutions or poisonous substances find access to rivers, or mud is carried down in such quantities as to choke the gills of most fishes, the *Ophiocephalidæ* are almost unaffected.

SNAKE RACE, Naga or Takshak race, was one of the most extensive and earliest in High Asia, and celebrated in all its extent; but the traditions regarding them, and the notices in the Hindu writings, are so mixed with fable, that little can be understood as to their real position. The Ramayana relates that the sacrificial horse was stolen by a serpent (Takshak) assuming the form of Ananta. The Snake race of India were the foes of the Pandu. The Mahabharata records constant war from ancient times amongst the children of Surya (the sun), and the Tak or Takshak (Serpent) races, and mentions that the horses of the sun, liberated preparatory to sacrifice, by the father of Rama, was seized by the Takshak. The successor of Janmejaya carried war into the seats of this Tak or Serpent race, and is said to have sacrificed 20,000 of them in revenge; and he subsequently compelled them to sign tributary engagements (*penamch*). The Parutaka (Mountain Tak) of Alexander were doubtless of this race, as was his ally Taxiles, which appellation was titular, as he was called Omphis till his father's death. Baber gives the position of the capital of this celebrated race, which he passed on his route of conquest. And there is an intermediate notice of it between Alexander and Baber, in the early history of the Yadu Bhatti, who came in conflict with the Tak on their expulsion from Zabulistan and settlement in the Panjab.

SNAKE-STONE, Pambu kailu, TAM., is a term employed in tropical countries to various substances applied to snake-bites. Charred bone, bezoar, magnesian limestones, and chalk are used. The virtues of these depend on their absorbent qualities; and earth has been recommended. Dr. Davy's belief was that in Ceylon a piece of charred bone is filled with blood perhaps several times, and then carefully charred again, and he says the manufacture of them is a lucrative trade, carried on by the monks of Manilla, who supply the merchants of India. Thunberg was shown the snake-stone used by the Boers at the Cape in 1772, which was imported

for them from the Indies, especially from Malabar, at so high a price that few of the farmers could afford to possess themselves of it. He describes it as convex on one side, black, and so porous that when thrown into water it caused bubbles to rise; and hence, by its absorbent qualities, it served, if speedily applied, to extract the poison from the wound. Mr. Hardy furnished Sir J. E. Tennent with an account of the *pedra ponsona*, the snake-stone of Mexico: Take a piece of hartshorn of any convenient size and shape, cover it well round with grass or hay, enclose both in a thin piece of sheet copper well wrapped round them, and place the parcel in a charcoal fire till the bone is sufficiently charred. When cold, remove the calcined horn from its envelope, when it will be ready for immediate use. In this state it will resemble a solid black fibrous substance, of the same shape and size as before it was subjected to this treatment. The wound being slightly punctured, apply the bone to the opening, to which it will adhere firmly for the space of two minutes; and when it falls, it should be received into a basin of water. It should then be dried in a cloth, and again applied to the wound. But it will not adhere longer than about one minute. In like manner it may be applied a third time; but now it will fall almost immediately, and nothing will cause it to adhere any more. These are quite insufficient to obviate the effects of a bite by the more poisonous snakes.

SNANA, SANSK., from *Sna*, to purify; bathing, ablution, a ceremonial of the Hindus; the ceremony of bathing or washing an idol. In the full moon of the month Jyeshtha, images of Krishna, as Jagannath, are carried out and bathed. It is called the *Snana-yatra*, or in Orissa *Rathayatra*.

SNEEZE, *Atas* of the Arabs, *Cheenk* of Hindustan. Most nations salute an individual after his sneezing. A Muhammadan after a sneeze ejaculates, *Al Hamd Illah*, God be praised; on which any one present adds, *Ya! Rahmat Allah*, God have mercy on you. On a child in Great Britain sneezing, the mother or nurse ejaculates, *Bless you, bless you, my darling*.

SNIFE are birds belonging to the family *Scolopacidae*, sub-families *Scolopacinae*, *Limosinae*, *Numeninae*, *Tringinae*, *Phalaropinae*, and *Totantinae*. The species of the *Scolopacinae* which receive the name of snipes, may be thus shown:—

Fam. Scolopacidae.

Sub-Fam. Scolopacinae, Snipes.

- Scolopax rusticola*, *Linn.*, the woodcock, all India.
- S. saturata*, *Horsfield*, Java.
- S. minor*, *Gmelin*, America.
- Gallinago nemoricola*, *Hodg.*, wood snipe, solitary snipe, all India.
- G. solitaria*, *Hodg.*, Himalayan solitary snipe.
- G. stenura*, *Tenn.*, pin-tailed snipe, all India.
- G. scolopacina*, *Bonap.*, common snipe, all northern latitudes.
- G. gallinula*, *Linn.*, jack snipe, all northern latitudes.
- Rhynchaea Bengalensis*, *Linn.*, painted snipe.

Gallinago scolopacina (*Scolopax gallinago*) is the common snipe of Europe, Asia, North Africa, and is very common in India.

Gallinago gallinula (*Scolopax gallinula*), the jack snipe of Europe, Asia, Barbary, is common in India.

Both these are migratory, coming over the

Himalaya in October, but the *Gallinago stenura* snipe precedes them, though few sportsmen discriminate it from the common British snipe, which makes its appearance somewhat later. *G. stenura* is nevertheless a different bird, at once distinguished by having a set of curious pin-feathers on each side of its tail; whereas the British snipe, which is equally abundant in India, has a broad fan-shaped tail, as unlike that of the other as can well be. The pin-tailed is the common snipe of the Malay countries, and is unknown in Europe, excepting as an exceedingly rare straggler from its proper habitat, the east. The double snipe is the *Gallinago major* of Europe, distinct from the two species of large or solitary snipes of the Himalaya, *G. solitaria* and *G. nemoricola*. The solitary snipe is the *Gallinago solitaria*. It is found throughout India, northwards to the Himalaya, where, in the lonely glen, by the side of the mountain torrent, where the pine grows tall and dense, and the sun's rays seldom penetrate, may be found the great snipe *Gallinago solitaria*, from the lower to the upper ranges of the forest region.

There are two distinct species in the Himalaya commonly confounded under the name 'solitary snipe,' and both are very different from the *Gallinago major* of Europe and Northern Asia, which has not been observed in British India. Of the other Indian kinds, one (*Gallinago solitaria* of Hodgson) is peculiar to the Himalaya, and to this species the designation 'solitary snipe' should be restricted. It is readily known by its white belly and yellowish legs,—wings longer, straighter, and more acuminate than in the other, and the upper plumage more minutely speckled, with the pale linear markings on the back narrower, and the tail also longer. Average measurement, 12½ inches by 20 in expanse of wings; closed wing 6½ inches, and tail 3 inches. Weight, 5 to 6 oz., or even more.

The other (*G. nemoricola* of Hodgson) should be distinguished as the wood snipe, and is more of a woodcock in appearance and habit, though keeping to the outskirts of the jungle. Though principally a Himalayan species, it is not rare in the Neilgherries, and it has been met with in various parts of the country, and in the Calcutta provision bazar. This species has blue legs, and the under parts are uniformly barred throughout; the general colouring dark, and the markings bold; the wings more bowed and rounder than in the other, and the tail shorter. 'It is only found,' remarks Mr. Hodgson, 'in the haunts of the woodcock, with this difference in its manners, that it is averse to the interior of woods.' Length, 12½ inches by 18 in expanse of wings; closed wing 5½ inches, and tail 2½ inches. Weight, 5½ to 6½ oz. and upwards.

The grass snipe is also known as the pin-tailed snipe (*G. stenura*); it is distinguished by a duller plumage than the common British snipe, and especially by the curious series of pin-feathers on either side of its tail; whereas the other has a fan-shaped tail, altogether different in form. The pin-tailed is the common snipe of the Malay countries, but not of Australia, as has been stated; the Australian (*G. australis*) being a much larger bird, with intermediate form of tail, as in the solitary and wood snipes of British India. In Bengal it is the more abundant species, early and

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late in the season, as the common or British snipe is during the height of the cold weather; but so early as the 30th August one was found in a bundle of pin-tailed snipes brought from the Calcutta bazar, and subsequently the pin-tailed only in considerable abundance. Nothing is more easy than to distinguish the two species by the shape of the tail, and a practised eye will generally tell them at the first glance; yet very few sportsmen in India are aware of the difference.

The little jack snipe (*G. gallinula*) is much later in its arrival, though numerous species of small waders arrive from their breeding-haunts before the end of August. He, again, has a tail quite different from that of any of the others. In brilliancy of plumage he excels all the rest.

There is a small and distinct species of woodcock in the Malay Archipelago (the *Scolopax saturata* of Horsfield). The woodcock, identical with the British, has been obtained in the Tenasserim Provinces; it abounds in the Himalaya, is less common in the Neilgherries, and is considered a rare bird in the mountains of Ceylon. On the Bombay side it is said to be far from common in the Mahabaleshwar.

The painted species, the *Rhynchœa Bengalensis*, belongs to a different genus from the true snipes, far more diverse than the closely akin one of the woodcocks. Sportsmen acknowledge this when they refuse to allow it to count in the game-bag. It is not a migratory bird, and both eggs and young have been obtained in the vicinity of Calcutta. Indeed, Mr. Blyth has taken the egg from the oviduct of a bird brought to the bazar. Its flight is not in the least like that of a real snipe, and has been aptly compared to that of a huge moth fluttering over the ground. One remarkable peculiarity of the painted snipe consists in the dissimilarity of the sexes, the female being the larger and more finely-coloured bird of the two; while the young in their first plumage resemble the mature male. The same has been observed of the Australian painted snipe (*R. australis*), which externally differs little from the Indian except in having shorter toes. Nevertheless, the female only of the Australian painted snipe has an extraordinary prolongation of the trachea or windpipe, as described by Gould, which is not the case with that sex of the Indian species. So curious a difference of structure existing in two species which externally are so much alike as the painted snipes of India and Australia, is a most remarkable fact.

The woodcock is found on the Neilgherries, and occasionally on the plains of the Peninsula. One was shot at Kaladgi in 1842. It is everywhere very scarce on the plains of India, but has now and then been met with even near Calcutta. The so-called woodcocks seen at the dinner-table are generally greenishanks (*Totanus glottis*), and occasionally the black-tailed godwit (*Limosa sœgocephala*).—birds of very different Scolopaceous genera.

The *Macrorhamphus* genus combines the form and exact bill of the snipes, with the plumage and seasonal changes of colouring of the godwits, knot, etc., becoming rufous in the breeding season. Mr. Blyth once obtained this bird in the Calcutta provision bazar. A second example was obtained in the Madras Presidency; and it is a bird that should be looked for on the sea-coast. Shore snipe should indeed be its popular name.

SNOW.

SNOW.

Talj, Tuluj, . . .	ARAB.	Neve, . . .	Ir., PORT.
Mo-bwing, . . .	BURM.	Snyegh, . . .	RUSS.
Snee, Sneeuw, DAN., DUT.		Nieve, . . .	SP.
Neige, . . .	FR.	Sno, . . .	SW.
Schnee, . . .	GER.	Khar?, . . .	TURK.

Snow is not known to fall in any part of British India south of the Himalaya. The snow-line of Kamaon was stated by Humboldt at 11,700 feet, but higher than this are flourishing agricultural villages and luxuriant vegetation. In every part of the Himalaya, and of Western Tibet, wherever the mountains attain a sufficient elevation to be covered with perpetual snow, glaciers are to be found. In the lofty chain of the Cis and Trans Sutlej Himalaya, and of the Kouen Lun, whose peaks rise to a very great height, and collect in winter enormous depths of snow, they are of great length. In the central parts of Tibet, which are often lower, and even in their loftiest parts, are less snowy, than the bounding chains, the glaciers are of inferior dimensions, where the snow-bed is at once cut off abruptly in an ice cliff, which can hardly be said to be in motion, or rather whose motion must be almost entirely from above downwards. Moraines which, on the larger glaciers and among mountains of easily decaying rocks are of astonishing dimensions, form the margins of each glacier, and also occur longitudinally. The annual rising of the rivers Indus and Ganges depends to a great extent on the melting of snows on the mountains. The permanent flooding of the Euphrates is also caused by the melting of the snow in the mountains along the upper part of its course. This takes place about the beginning of March, and it increases gradually up to the time of barley harvest, or about the last days in May, when it is usually of its greatest height. In the report of the Proceedings of the Magnetic Survey, it is mentioned that the phenomenon of the illumination of snowclad mountains after sunset (analogous to the glowing of the Alpine snows) was seen several times in those nights when there was no moon. It was seen particularly well near Chibra, to the north of Kara-korum. Judging of it, as seen there, it was thought to be quite independent of a spontaneous development of light from snow, and evidently caused by an illumination of the snow-fields from the west-north-western parts of the sky. This illumination is only visible after a certain time after the sun has set, namely, when the projection of the earth's shade has reached an angular height exceeding that of the mountains, and when the atmospheric light has decreased so much that the atmosphere behind the mountains reflects less light than the snow-clad slopes of the mountains exposed to the west-north-west. The Lachen valley, says Dr. Hooker, remains almost level for several miles, the road running along the east bank of the Lachen. Shoots of stones descend from the ravines, all of a white, fine-grained granite, stained red with a minute conferva, which has been taken by Himalayan travellers for red snow, a phenomenon Dr. Hooker never saw in Sikkim. Red snow was never found in the antarctic regions during Sir James Ross' South Polar voyage; nor does Dr. Hooker know any authentic record of its having been seen in the Himalaya. — *Hooker's Himalayan Journal*, ii. p. 118; *Magnetic Survey of India*, p. 8.

SNUFF.

Barnuti, Saut, . . .	ARAB.	Tobacco da naso, . . .	Ir.
Tabac en poudre, . . .	FR.	Nosowoi tabak, . . .	Rus.
Schnupftaback, . . .	GER.	Tabaco de polvo, . . .	Sp.
Nas,	HIND.	Enfiye,	TURK.

Snuff is tobacco in a powdered state, and in general use as an errhine. Other articles are sometimes added to vary its pungency, scent, etc. The snuff of Masulipatam was to be found throughout the Peninsula of India, where many Hindus and Muhammadans use it. Snuff is very little taken by the inhabitants of the Panjab plains, but the Baluchi and hill tribes of the Dehrajat use it more frequently. It is preserved in small egg-shaped boxes, with a little ivory stopper; some of them are very prettily carved out of the fruits of *Feronia elephantum*. Benares snuff is famous throughout India, and its manufacturers have made fortunes.—*Powell; Faulkner; M'C.*

SNUSSE, a society of darvesh of recent origin, but who have already obtained an influence in the region of Northern Africa corresponding to that exercised in Central Asia by the late Akhond of Swat. They are usually regarded as exceedingly fanatical.

SOAP.

Sabun, AR., GUJ.,	HIND.	Sapo,	Lat.
Fan-kien,	CHIN.	Sabun, Sujah, . .	MALEAL.
Sabe,	DAN.	Sabao,	PORT.
Zeep,	DUT.	Mulo,	RUS.
Savon,	FR.	Salp,	SCOTCH.
Seife,	GER.	Jabon,	SP.
Sapone,	IT.	Tyal, Sapa, . . .	SW.

The manufacture of soap has long been practised in India, but the identity of its names in very many regions shows that its manufacture was learned almost from one source. Soaps are slightly alkaline, feel soft and slippery, and are detergent. The watery solution is readily decomposed by acids, also by earthy and many metallic salts; hence, when water holds any of them in solution, instead of dissolving, the soap becomes decomposed. Such waters are called hard, while those which are comparatively pure are called soft waters. Castile soap is composed of 9 to 10.5 of soda, 75.2 to 76.5 of oleic and margaric acids, and 14.3 to 14.5 of water. Common soap is made of tallow and soda, and yellow soap of tallow, resin, and soda. Chinese use the native soda (Fan-kien), or the pods of the *Acacia concinna* (Fei-tsan-toh). Soap seems to have been introduced by the Muhammadans into India, though the Hindus have long used alkaline leys, obtained from the ashes of plants, for many of the purposes of soap; and they have a substitute for soap in several berries. Soap is made at Dacca, of fine shell lime, 10 maunds; saji mittee, impure carbonate of soda, 16 maunds; common salt, 15 maunds; sesamum oil, 12 maunds; goats' suet, 15 seers. It is made of good quality at Sabarunpur. The soap of Tranquebar was formerly an export to Mauritius, Penang, Sumatra, and the islands of the Indian Archipelago. In Oudh, a soap is made from cow's fat and the resin which effloresces on barren land. It sells at 8 seers the rupee. Soft soap, used in the arts, is made with caustic potash and fish-oil and tallow; is semi-transparent, of the consistence of honey, brownish-coloured, and nauseous.

SOAP-STONE, Pot-stone, Steatite, Tale.

Hwah-shih,	CHIN.	Sunkjui, Sunkjeera, HIND.	
Hwah-shui,	"	Bulpai,	TAM., TEL.

This mineral has a soft and greasy feel; is of a

yellowish-white or greenish-grey colour, sometimes spotted or veined, with little lustre or transparency. It is composed of silica, alumina, oxide of iron, and water in various proportions. It occurs in many parts of India and Burma, and is constantly for sale in the bazars, being used to write with on black boards, as Europeans use chalk.—*M. E. J. R.*

SOAP-WORTS. The soap tree of China, *Sapindus Chinensis*, is a large tree bearing round berries, resembling the fruit of the melia. The tree is called by the Chinese Wa-hwan-tze and Fei-chu-tze. The berries are sometimes used in making rosaries, and when roasted are eaten by the Chinese, notwithstanding their apparent acidity. In the form of tincture of the berries, they were used in skin diseases. The followers of the Taou faith employ sticks of this tree to exorcise demons. Soap-worts, soap-fruits, and soap-nuts in tropical climates furnish substitutes for soaps of a more or less useful character, and the dried berries are to be found in almost every bazar, being used throughout India for washing silk, or hair, or woollens and cloths of various kinds. The soap-berries of the W. Indies and the continent of America are from the *Sapindus saponaria*, and in Java, *S. rarak*. In India, several species, as *S. laurifolius*, *S. acuminatus*, *S. emarginatus*, and *S. detergens*, yield berries, used similarly. The fleshy part of these *sapindus* berries is viscid, and when dry and rubbed with water, they form a lather like soap; and the bark and roots have similar properties, though it is said that articles washed by the root and bark rapidly corrode. Hindu physicians deem the endocarp a useful expectorant, and it is said the seeds, pounded with water, and a small quantity put into the patient's mouth, often put an end to the epileptic paroxysm. The tincture or extract of the soapy matter of the capsules of *S. saponaria* has been used in chlorosis. Its berries, which are about the size of cherries, enclose black shining nuts, which take a fine polish, and were formerly much used in England for making buttons, after having been tipped with gold, silver, or other metal. They are also made into beads, necklaces, etc. The kernel contains an edible oil, which is sometimes used for burning. In India the nuts of the rheeta, *S. emarginatus*, are eaten by young people; and in the West Indies the fruits of *S. Senegalensis* and *S. esculentus* are deemed as palatable as the hazel-nut and almond. *S. rubiginosus* has a close-grained, hard wood, and forms an excellent timber. *Saponaria vaccaria* is well known in India, and is identical in its properties with *S. officinalis*, a decoction of the root frothing like a solution of soap. Kriz, kris, or kress, the root of some parasitical plant, but of unknown origin, is used in Kashmir to wash the shawls, soap being used only for the white shawls. It is used also medicinally, and for dyeing the colour called na-furmanee.

Soap acacia is the *Acacia rugata*, *Buch*. The dried pods of this plant are sold in the bazars of all the East Indies, and used as a substitute for soap in cleansing the hair.—*Mason*.

Soap-berry, seeds of *Sapindus saponaria*. The fleshy covering (pericarp) of the seeds of this tree, and, in a less degree, the root, make a lather in water, and serve all the purposes of soap, being very generally employed by the poor in washing their coarse linens. The seeds are round, smooth,

and black, and were at one time imported into England for rosaries, and tipped with gold, etc., as buttons. The seed-vessels are employed also in America and the West Indies in washing linen, of which they are said to cleanse more than would sixty times their weight of soap.

Soap-nut, Soap-berry.

Buro ritah, . . .	BENG.	Puvandio cottay, . .	TAM.
Rita, Aritah, . .	HIND.	Manay pungung-kai, .	"
Harak, . . .	MALAY.	Kumutti ghinzalu, .	TEL.
Bindak-i-Hind, .	PERK.	Kunk-kaia, . . .	"
Arishta, Phenila, .	SANSK.		

The *Sapindus emarginatus*, *Vahl.*, yields this product. The capsules contain black seeds, which have a singular sweetish-bitter taste, and a smell not unlike that of an over-ripe mango. They form, when bruised and agitated in water, a kind of sud, like that of common soap, which is extensively used by the natives of India for washing the hair of their head, and by washermen for cleaning silks. Soap-nut and sikaya are extensively used as detergents. They have all the cleansing properties of soap, and form a thick lather with water. They owe this property to the presence of a peculiar principle, which has been termed Saporina or Esculeic acid, and which can be separated from the seeds by alcohol. The black nut is capable of receiving a high polish, and is much employed for making beads. As a substitute for soap, these two substances might become of value. They are exceedingly abundant and cheap. The pounded seeds are said to be a valuable remedy for epileptic paroxysms and other diseases. Soap-nuts are procurable in most bazars.

Soap-nut oil.

Rithay-ka-tel, . .	HIND.	Poongum kai yennai, .	TAM.
Poovanday kotte-yennai, .	T.	Kooncoodi nunay, .	TEL.

The pale-yellow semi-solid oil is used medicinally by the natives, and is extracted from the kernel of the soap-nut. Its cost prevents its general use. The soap-nut tree grows all over the East Indies.

Soap bark of Chili, from the *Quillaja saponaria*, used for dressing silk and wool. Chemical science has not yet discovered any equally efficient substitute for this bark, and it has accordingly come into large demand both in France and England.—*W. Jc.; Useful Plants; M. E. J. R.; Simmonds; Smith.*

SOAREZ. Loupo Soarez de Albergaria, a leader of the Portuguese in India in the early part of the 16th century. He succeeded Albuquerque, and in 1516 reduced Aden, took and burned Zeila, but failed in an attack on Jeddah. In 1517 he burned Berbera on the Somali coast, made the king of Colombo tributary, and obtained permission of the ruling sovereign, Dharina Pra Krama Bahoo IX. (A.D. 1505-1527), to erect a fortified factory at the entrance of Colombo.

SOBHAVATI-NAGARA, the birthplace of the Buddha Kanaka-muni, identified with Subhaya-pura.

SOBRAON, a small village in Lahore district, Panjab, on the W. bank of the Sutlej (Satlaj), in lat. 31° 7' N., and long. 74° 54' E. Opposite this village, on the east bank of the river, in the Ferozpur district, lies the battlefield where Sir Hugh (afterwards Lord) Gough gained his decisive victory of 10th February 1846, which brought to a close the first Sikh war, and led to the occupation of Lahore by a British force. The Sikhs had taken up a strong position on the east side of the Sutlej, protecting the Hariki ford, while their

rear rested upon the village of Sobraon. The battle took place on the Ferozpur side, where the Sikhs gallantly held their earthworks until almost their last man had fallen. Comparatively few made their way back across the river.—*Imp. Gaz.*

SOCOTRA lies between lat. 12° 19' and 12° 42' N., and long. 53° 20' and 55° 2' E., with an area of 1520 square miles. It was known to the ancients as Dioscorida, a name supposed to have been derived from the Sanskrit Dwipa Sakhadhara, i.e. island, the abode of bliss. The S.E. coast of Arabia is held by the Mahra tribe, in a narrow strip of land from Misnat to Ras Nus, lying between the sea and the mountains of Subhan, their sovereign being the sultan of Keshin, and the Mahra hold also Socotra. It was long occupied by Christians. It was temporarily occupied by the E. I. Company from 1834 to 1839. It has only three towns of any magnitude. The Bedouins, nomadic shepherds, are the original inhabitants. They are tall men and well made, with open countenances, and peaceful. They dwell in caverns in the limestone rocks. Aloe and dragon's blood from *Pterocarpus draco* are the chief exports.

SOCRATES, n.c. 468-399, the Sokrat of the Arabs, a philosopher of Greece, born at Athens B.C. 468. His father was a sculptor and his mother a midwife. He served bravely as a soldier, but it is as a philosopher that he is famous. He does not seem to have written any book, but Plato digested his discourses, in the form of conversations. He was accused of treason, and was condemned to death by drinking hemlock juice.

SODA BIBORAS, Borax, Tincal.

Boorak, . . .	ARAB.	Sohaga, . . .	HIND.
Lat-khya, . . .	BERM.	Cateri, Pijar, . .	MALEAL.
P'ung-sha, . . .	CHIN.	Tunkar, . . .	PERK.
Yueh-shih, . . .	"	Tincana, . . .	SANSK.
P'wan-shah, . . .	"	Velligaram, . . .	TAM.

Borax is supposed to have been known to the Greeks and Romans, and to have been the chryso-colla of Pliny. The Hindus have long been acquainted with it; it is their sohaga, Sanskrit tincana, and one of the kinds of boorak of the Arabs. It is produced by spontaneous evaporation on the shores of some lakes in Tibet, and is brought across the Himalayan passes into India, and imported into other countries by the names of tincal and crude borax. It is also obtained by saturating the boracic acid of the lagoons of Tuscany with carbonate of soda. Crude borax is in pale-greenish pieces, covered with an earthy coating, and feels greasy to the touch. The natives of Tibet are said to cover it with some fatty matter, to prevent its destruction by efflorescence. It is purified by calcining, which destroys the fatty matter, or by washing with an alkaline ley, which converts it into a kind of soap, then dissolving and re-crystallizing. Sp. gr. 1.35. It is colourless, transparent, somewhat shining. It has an alkaline reaction on turmeric. The crystals, efflorescent slightly in the air, are soluble in 12 parts of cold and 2 of boiling water. When heated, they lose water, swell up into a porous substance called Borax usta v. calcinata, and at a red heat run into a transparent glass called glass of borax, much used as a flux. Another variety, more useful in the arts, crystallizes in octohedra, which are permanent in the air.—*Royle's Mat. Med.; Smith's Mat. Med.*

SODA, Carbonate of Soda.

Kan, Kien, . . . CHIN.	Choutoo munnoo, . . . TAM.
Kohlensaures natron, GER.	Karum, . . . "
Neter, . . . HEB.	Punhir-karum, . . . "
Soud, Soudoo, . . . HIND.	Ovar-munnoo-karum, . . . "
Chowr ki matti, . . . "	Poong karum, . . . "
Khar, Sajji noon, . . . "	Saviti munnoo ooppoo, TEL.

The soda of commerce was formerly obtained from kelp or barilla, made by burning sea-weeds and species of *salsola*. It was known to the early Hindus, and is by them now called Sajji noon (i.e. Sajji salt or soda salt). Plants mostly of the natural family of Chenopodæ, and chiefly of the genera *Salsola*, *Salicornia*, *Suaeda*, and *Chenopodium*, are burned to obtain the ash. This is barilla, and contains 25 to 40 per cent. of carbonate of soda. Various saline plants of the *Salsola* tribe abound in the thals or deserts during the rainy season. The Indian article, though a natural product, could not compete with the manufactured in the market.

The mineral carbonate of soda, dhobi's earth, occurs abundantly in many parts of India, in a whitish soil over granitic rocks or over alluvium. The earth is collected and used by washermen instead of soap for washing cloth. There is from 5 up to 30 per cent. of dry carbonate of soda obtainable; but in the earth this is mixed with muriate of soda and other salts.

Kelp used to be prepared on the coasts of Europe by burning a great variety of algæ or sea-weeds. Kelp is in hard cellular masses, of a bluish-grey colour, and of a disagreeable alkaline taste, containing from 8 to 8.5 per cent. of carbonate of soda and other salts, as in the case of barilla, but also some potash and iodine.

SODA, Muriate of, Common Salt.

Malh, . . . ARAB.	Chlor natrium, . . . GER.
Theing-dau-hsa, . . . BURM.	Namak, Nun, Lun, HIND.
Shih-yen, . . . CHIN.	Sodæ chloridum, . . . LAT.
Chloride of sodium, ENG.	Garam, . . . MALAY.
Chlorure de sodium, FR.	Uppu, . . . TAM., TEL.

The common salt is obtained as rock-salt from the mines of the Salt Range, from the saline lakes and wells of many parts of Asia, in China and British India, from the sea water by evaporation, and from the saline soils by solution. Mineral salt or earth salt of very fair quality is made in Bangalore, Bellary, Hyderabad, Guntur, and Nellore districts, where it is almost invariably accompanied with gypsum, magnesian limestone, sandstone, sulphur, red and brown iron ores, and alum slate. Muriate and carbonate of soda is obtained from the Loonar lake in the Hyderabad territories.

SODA, Nitrate of.

Cubic nitre, . . . ENG.	Wurfelsalpetre, . . . GER.
Nitrate de soude, . . . FR.	

It consists of nitric acid and soda, and is similar in its properties to saltpetre, differing chiefly in being more pungent in taste, more soluble in cold water, more inclined to attract moisture from the atmosphere, and in crystallizing in a rhomboid form. It is highly esteemed as a manure for pastures, and for all other sorts of agricultural produce, except that grown in heavy wet soils. It is also applied to many of the purposes for which saltpetre is used. It answers well for some descriptions of fireworks, though, being more deliquescent than saltpetre, it is not adapted for the manufacture of gunpowder. This salt is found in immense quantities in deposits in South America,

particularly in the districts of Atacama and Tarapaca in Peru. It was exported up to 323,600 tons in 1875. Indifferent samples of this salt were exhibited at the Madras Exhibition of 1867, from Bellary and Hyderabad, where it seems to form a natural efflorescence.—*Waterstone in Faulkner; M. E. J. R.*

SODA, Sesquicarbonate of.

S. bicarbonas.	Bicarbonatæ of soda.
Sodæ carbonas.	Carb. of soda of the shops.

The trona found near Tripoli in Africa, the natron of the country to the west of the delta of the Nile, and that of the Loonar lake described by the late Dr. Malcolmson, are all sesquicarbonates of soda. The bicarbonate of soda is the same salt as the sesquicarbonate of soda. That which is met with in commerce is usually a pure salt, but occasionally mixed with a small portion of the carbonate. It exists in some mineral springs highly acidulated with carbonic acid, as in those of Vichy. As usually sold, it is colourless, in powder, or in minute scale-like crystals, having a saline, slightly alkaline taste and reaction.—*Koyle.*

SODA, Sulphate of, Glauber's Salt.

Malh, . . . ARAB.	Khara namak, . . . HIND.
Sulphate de soude, FR.	Khari nun, . . . "
Schwefelsaures natron, GER.	Sal catharticus, . . . LAT.
	Sodæ sulphas, . . . "

The Chinese names are, for mineral glauber, P'oh-siau and Pi-siau; and for artificial glauber, Huen-ming-fen and Peh-lung-fen. It exists in sea water, in the ashes of many plants; is found effloresced on the soil in India, in the water of some lakes and mineral springs, in glauberite, and in some animal secretions. In Bengal, an impure sulphate of soda is extracted from earth in which the salt exists, in the proportion of from ten to fifty per cent. It is prepared in large quantities by simply washing the earth. It is usually sold in crystalline dirty brown masses. These are purified by a simple process. In the Chinese provinces of Cheng-ti-fu in Szechuen, and Ts'ing-chau-fu in Shan-tung, this occurs native as an efflorescence on the soil, from which it is brushed up, dissolved in water, and coarsely crystallized. In this form it is a natural salt like the reh of the doab of Northern India, and is used to make the pure sulphate of soda. In China it is confounded with nitre obtained from a similar source.—*Smith's Mat. Med.*

SODHA, a Rajput clan, scattered over the Indian desert. The Sumaicha is a Muhammadan proselyte from the Sodha. Sir H. Elliot says that amongst this tribe the Wairai was the chief clan, and a cognate clan was called Waisa. The Sodha or Soda tribe is an offshoot of the Pramara, and for many centuries has been an occupant of the desert tracts of Western India, into which they have been driven forward from the banks of the Indus by more powerful arrivals. The Sodha at one time held possession of Amerkot, from which they were expelled by the Talpur dynasty of Sind. The representative of the Sodha family retains the title of rana. He resides at Chor, a few miles N.E. of Amerkot, but shorn of all power, and hard pressed for the means of subsistence. The Sodha Grassia are Rajputs of the Sodha tribe, whose women are famed for their beauty, and are much sought for by surrounding Muhammadans and Rajputs. They sell their female children to the Muhammadans. A Sodha father

reckons his wealth by his number of daughters. Sodha Rajputs occupy Parkar, engage in cultivation. The Sodha who has retained the name of Hindu has so far discarded Brahman teachings, that he will drink from the same vessel and smoke out of the same hookah with a Musalman, laying aside only the tube that touches the mouth. With his poverty, the Sodha lost his reputation for courage, retaining only the merit of being a dexterous thief, and joining the hordes of Seorai and Korsa who prowled from Daodputra to Gujerat. In A.D. 1820, the arms of the Sodha were the sword and the shield, with a long knife in the girdle, which served either as a stiletto or a carver for his meat; few had matchlocks, but the primitive sling was a general weapon of offence, and they were very expert in its use. Their dress partakes of the Bhatti and Muhammadan costume, but the turband is peculiar to themselves. The Sodha is to be found scattered over the desert; but there are offsets of his tribe, now more numerous than the present stock, of which the Sumaticha is the most conspicuous, whether of those who are still Hindu, or who have become converts to Islam.

On leaving the confluence of the Panjab rivers, Alexander sailed down the Indus to the realm of the Sogdi, Σογδοί, where, according to Arrian, 'he built another city.' Diodorus, describing the same people, says: 'Continuing his descent of the river, he received the submission of the Sodæ and Massane, nations on opposite banks of the stream, and founded another Alexandria, in which he placed 10,000 inhabitants.' From these accounts, General Cunningham considers that the Sogdi of Arrian and the Sodæ of Diodorus are the same people, although the former have been identified with the Sodha Rajputs by Tod and M'Murdo, the latter with the now servile Sudras by Mr. Vaux. The Sodha occupy the south-eastern district of Sind, about Amerkot, but, according to M'Murdo, they once held large possessions on the banks of the Indus, to the northward of Alore. Abul Fazl states that the country from Bhakar to Amerkot was peopled by the Sodha and Jhareja in the time of Akbar; and General Cunningham believes that the Massanæ of Diodorus are the Musarnei of Ptolemy, whose name still exists in the district of Muzarka, to the west of the Indus below Mithankot. He identifies the Sogite or Sodæ with the people of Seorai, which was captured by Husain Shah Arghun on his way from Bhakar to Multan. In his time, A.D. 1525, it is described as 'the strongest fort in that country.' In this very position, that is about 8 miles to the north-east of Sabzalkot, the old maps insert a village named Sirwahi, which may possibly represent the Seorai of Sindian history. It is 96 miles in a direct line below Uchh, and 85 miles above Alore, or very nearly midway between them.—*Tod's Rajasthan*, ii. p. 12; *Cunningham's India*, p. 258; *Elliot's India*, pp. 531, 532.

SODHI, a descendant of the Sikh Guru Govind. They were addicted to infanticide.

SODHYA. **SANSK.** Called Sobhacritu in the Karnatic, wrongly written Sodhyum. A constant number to be subtracted in certain computations, to fit the rule to a particular epoch, being the negative of Cshepa.

SO-E. CHIN. A garment of leaves, which, as well as hats, is fabricated by the agricultural

labourers of Northern China, from the leaves of *Chamærops excelsa*, a palm indigenous in the northern and central parts of that country; but in the southern districts of China the So-e is made from the leaves of the bamboo and of other broad-leaved grasses.

SOENAIR. Colonel Tod relates that a Rajput ruler in the fulness of his pride had divine honours paid him in the rite Soenair. This distinction, which involves the most august ceremony, and is held as a virtual assumption of universal supremacy, had in all ages been attended with disaster. In the rite of Soenair, every office, down to the scullion of the Risorah or banquet-hall, must be performed by royal personages.—*Tod's Rajasthan*, ii. p. 8.

SOFALA, a district on the African coast to which the ships of the Hebrews voyaged.

SOFARIDES, a dynasty who ruled in Khorasan and Seistan for thirty years, from A.D. 872 to 908. They displaced the Tahirides. Their founder, Yakub son of Leis, was a brazier (Soffar means a worker in copper) of Seistan, who first raised a revolt in his native province, and afterwards overran all Persia to the Oxus, and died while on his advance against the khalf in Baghdad. His brother Umar was defeated and made prisoner by the Samani, which put an end to the greatness of the family, though a younger member maintained himself in Seistan for a few years after the loss of their possessions (A.D. 903, A.H. 290).—*Elph.* p. 271.

SOFIAN, a little place which is within the lines of a dreadful battle fought A.D. 1585, between the Turks and Persians, and which gave a signal overthrow to the former power by the arms of Hamzeh Mirza, who commanded the Persians. The distance from Sofian to Tabreez is 24 miles.—*Porter's Travels*, i. pp. 219, 220.

SOGDIA or **Sogdiana**, an ancient dominion. It comprised the mountainous part of Transoxiana (which may be described as the extreme western spurs of the Tian-Shan), with no definite frontier on the east, but bordering westward on Miyankal, southwards on Kesh, and northwards on Osrushna. The capital was Samarcand, undoubtedly the Maracanda of the Greeks, which they specify as the capital of Sogdia. Samarcand, throughout the history of Transoxiana, has been the rival of Bokhara. According to Bunsen (iii. p. 584), the separation of the Aryans was prior to their leaving Sogd. The Aryan emigration from Sogd to Bactria, after the separation, took place, he says, B.C. 5000, consequently before the time of Menes. Their immigration into the Indus country was, he says, about B.C. 4000; and Zoroaster's reform in Bactria about the time of Menes, or half a century later. Sogd is said to be the birthplace of Arsaces I. of the Arsacidae. Sogdiana in Samarcand formed the first settlement of the Aryans. Sughda, afterwards spelled Sugdia, and commonly Sugdiana, is pre-eminently the country, as being the home of the fire-worshippers. It is described in the Vendidad as in the 38th degree of latitude, where Mara Kanda (Samarcand) is situated, a paradisiacal land, fertilized by the river Sogd, so that Sogd and Paradise are used synonymously by the later writers. The Vendidad (ii. verse 5) says it was created as the second best of the regions and countries.—*Vamberg; Bunsen*, iii. 584, 586.

SOH and **Wang**. **CHIN.** The first and

fifteenth days of the month, kept as holidays by the Chinese.

SOHAG. HIND. Ornaments worn by married women while their husbands are alive. Sohagin, a married woman whose husband is alive.

SOHAGA. HIND. A clod-crusher, also called dah. A flat piece of heavy wood dragged over fields after ploughing and sowing, to smooth down the clods.

SOHAGIN or Sogheea, a sect of Muhammadan fakirs who assume women's clothes, and dress as women.

SOHAR, a town of Oman, on the E. coast of Arabia, with about 20,000 inhabitants.—*Finlay.*

SOHAWAL. This state was entered in the sunnud granted to raja Kishore Sing as a feudatory of Punnah. Separate sunnuds were granted to the chiefs of Koti and Oocheyra on the British occupation of Bundelkhand. The area of Sohawal is about 300 square miles, and the population about 50,000; the revenue is Rs. 30,000.—*Atche-son's Treaties*, p. 247.

SOHNA, a small town of 7507 inhabitants, with a sulphur spring, in the Gurgaon district of the Panjab, in lat. $28^{\circ} 14' N.$ and long. $77^{\circ} 7' E.$, at the foot of the Mewat Hills. The water has a temperature varying from 115° to $125^{\circ} F.$, and it is considered a specific for the Delhi boils. A large bath has been constructed for the use of Europeans.—*Imp. Gaz.* vii.

SOIL. The gross revenue of British India in 1881 was £72,559,978, and the land revenue in that year was £21,112,995; so that alike for the agricultural rent-payers and for the Government receivers it is important to have the fullest acquaintance with the soils, seeing that, since 1872, the land revenue, being then £20,520,377, has but little risen, though agricultural farms and new products had been introduced, and more land brought under cultivation. The soils of British India are not multitudinous, though from the variety of languages the names are manifold.

Peninsula.—Throughout its entire extent, there are four markedly distinct kinds of soil in which cultivation is conducted. These may be briefly named as the red soil over the granitic, gneissic, and syenite tracts; the black soil or regur, also called cotton soil, over the rocks of volcanic origin; the alluvial soil; and the sandy soils along the coasts and in beds of rivers. There are patches of regur or black soil in various parts of the Ceded Districts and in Tinnevely, and it is to be seen over all the great volcanic outburst in the Dekhan. The red soil tract lies over the granitic regions in eastern and southern parts of the Peninsula. The regur or black soil is very retentive of moisture, and very fertile, and all the country where it is found is well under cultivation. The field crops grown on it are cereals, pulses, and cottons. Dr. Heyne remarked (*Tracts*, p. 349) that red soil prevails where syenite forms the apparent ground rocks; and Mr. H. F. Blanford says the colour and appearance of the soil is an excellent indication of the presence of certain rocks throughout the districts.

The plateau of the Peninsula, from Central India southwards to the Godavery and Kistna rivers, is a great outburst of volcanic rocks, and the soil which is formed from their detritus is exceedingly fertile, when well combined, as it commonly is, with the salts and double salts formed by the

union of the organic acids with the inorganic bases of alkalis, earths, and oxides, which have become soluble, and been brought to the surface from below by capillary attraction. And the basaltic plateaux are often surmounted with a deposit of laterite, the detritus of which tends to promote fertility in the soil. There never is any other deposit than this iron clay or laterite above the basaltic plateaux. The centre of the great table-land of the Dekhan for about 80 miles around Beder is covered with great hills of laterite, which occurs also north of Amraoti, in Berar, also near Madras, along the Malabar coast, and at Rangoon. Near Musery, on the banks of the Canavery, black soil, with its accompanying calcareous strata of marl and tuff, rests in common on granite.

Ceylon.—The rocks of the interior of Ceylon are granite, gneiss, and greenstone. These form the body of the island, and the soil consists of the disintegrated or decomposed materials, in which felspar and quartz greatly preponderate, enriched in some parts by vegetable accretions.

Laterite, called Kabuk in Ceylon, occurs in several parts of the island, and the great quantity of felspar occurring in parts of the island gives to the soil of those tracts a hard clayey structure, with a smooth and firm surface.

Owites, Dutch or Singhaleso? are high lands only cultivable every three to seven years.

Wattoerawes, low, muddy ground covered with reeds, only cultivated in dry seasons.

Moclarics? high, steep ground, only cultivable after rains.

Doleunies, sandy plains planted with fine grain.

Madras.—In the Tamil country, the waste or uncultivated lands are classed as Sekal karambu, or capable of cultivation, and Anudi karambu, lying waste from time immemorial, and which cannot be profitably cultivated.

The greater part of the Madras districts is covered with soils formed by the decomposition of metamorphic rocks, gneiss, etc., and such are of inferior quality. Stretching across the country in a N.E. direction from Trichinopoly, there is a wide belt of rocks belonging to the green sand formation, over which a very productive soil rests.

The black cotton soil occurs sometimes in patches, in others extending over plains of hundreds of square miles.

The red soil of the Madras districts in some places covers extensive plains with a hard-crust surface, in others it is open, friable, easily worked, and generally fertile. These parts are cropped with cotton and cereals; the grey soils with varago, Panicum Italicum, and the inferior soils with Penicillaria spicata and Sorghum vulgare.

The soil of that part of the Carnatic which lies nearest to the sea, is loam and sand, sparingly mixed with marine remains, and it has been formed from the debris of the granitic and syenite mountains inland. The rocks of these mountains contain a very small proportion of felspar, which seems to account for the want of the proper admixture of clay, and for the superabundance of iron. It is either a loam mixed with sand and gravel, and strongly impregnated with iron, or, in low and wet places, a stiff red loam mixed with vegetable earth and fine sand, or, on eminences, gravel and sand; and it is often so much impreg-

nated with common salt that it presents a saline efflorescence in dry weather.

Near Madras, it is a heavy sterile salt loam mixed with silicious sand; and along the sea-coast, and for some miles inland, sea-shells are found in a thick black tenacious clay from 10 to 50 feet below the surface.

Between St. Thomas Mount and Vellore, particularly on the higher tracts, the soil is equally poor, though that of the valleys is more fertile, doubtless from the more valuable parts being washed into them.

In the valleys along the Eastern Ghats and between the ranges of hills, the soil is chiefly loamy, mixed with sand, and with a considerable proportion of vegetable mould, which imparts to it its dark shade of brown. The vegetable admixture and loaminess are owing to the great quantity of water with which it is inundated for a great part of the year for the rice cultivation.

Coinbatore has black soil, red soil, calcareous soil, and grey-coloured soil, the last being from schistose rocks, gneiss, mica, and hornblende, and is naturally poor. Cumboo, the *Penicillaria spicata*, is grown on red and grey soils; sorghum on black or red soils. Calcareous soil yields well under moderate but regular rainfall. Black cotton soil has great power of absorbing and retaining moisture. Mr. Robertson found it capable of holding more than one-third of its entire weight of water, and that it has in a very remarkable degree the power of absorbing moisture from the air. In one night, black soil absorbed $1\frac{1}{2}$ per cent., and sandy soil only three-fourths per cent. One portion placed in an atmosphere saturated with moisture, took up 7.99 per cent. of water in a single night. Its value as a top-dressing merits trial.

The *Neilgherry* group of mountains is uniformly covered with a thick stratum of clayey, grey-coloured, friable vegetable earth, overlying a thicker stratum of red earth.

In the low valleys and flats at the foot of these hills, and also in the declivities of the hills, the soil is of a black or deep-brown colour, of tenacious consistence when moist, crumbling into powder and often splitting into masses when dry. It resembles the black soil forming the swampy ground in peat bogs, and also resembles the black soil of the plains of India, from which, however, it differs in containing a large quantity of carbonaceous matter and much oxide of iron. Dr. Benze exposed it for an hour to an intense heat, from which it lost 25 per cent. of its weight, and changed into an ochry-red powder, but it did not vitrify as the Dekhan black soil does.

Malabar lands are classed as yielding 20 fold, 15 fold, and 10 fold.

Mysore, for a great part of the level surface of the table-land, has a red ferruginous arenaceous earth lying over syenite. White kaolin is frequently found between the two. It has a soft greasy feel, and is sometimes mixed with a fine sand. Kaolin of a fine white colour is found in many parts of Mysore.

The Canarese-speaking natives of Mysore distinguish eight different soils, viz :—

Yara, black cotton soil, quite free from stones.

Kara, the same but stony.

Kengala, Kempu, red soil mixed with loam and vegetable mould.

Morallu or Molalu, sandy soil.

Kallu, Murbu, stony and gravelly soil.

Bila, Carlu, white stiff loam.

Maska, Masbu, Cabbou, garden soil.

Soudu, Choudu, salt ground.

The tops of the rising hummocks are usually very barren, producing nothing but a small jungle, chiefly composed of *Dodonæa viscosa*, *Convolvulus cuneatus*, *Erythroxylon areolatum* and a thorny species of *Barleria*. The soil of the valleys is a good and loamy mixture, in which rice and sugarcane are grown, the latter demanding the best soil, while the rice requires an abundance of water. All other grains in Mysore are grown under the natural rains.

Salem.—Muriate of lime is found in the well water and the soil of the Bara Mahal or Salem district, also in Mysore and other parts of the Peninsula. The soil containing it rapidly absorbs moisture, is very fertile, and gardeners apply it to the roots of the egg plant. In Mysore it is found largely in the water from which salt is made.

The soda soils of the Bara Mahal or Salem district are in patches, seldom more than half a mile square, and generally resting on a bed of kankar. The soil is sandy, and incapable of supporting vegetation, only a scanty scrubby grass growing on them. The natives call the soil of these patches Chour mannu, and extract the soda to be used as a flux of quartz in bangle-making; and washermen dissolve it, add quicklime to it to make it caustic, and use it in washing clothes. The bangle-makers extract the impure soda by mixing the earth with water in a pot, and allowing it to settle. The solution is then drawn off, and evaporated by sprinkling it on cow-dung spread on the surface of granite rock. When the cake has become about half an inch in thickness, it is taken off and broken into pieces, stored in houses under the name of Chour billah, and is sold at the rate of $17\frac{1}{2}$ rupees the ton. It contains 23 per cent. of insoluble matter. Soda soils of Bengal contain 15 per cent. of sulphate of soda.

The soil in the wide plains of the Ghooty district is largely the black cotton soil.

The *Dekhan* soils, besides regur, are classed as Lal-Barad, red gravelly soil; Pila-Barad, yellow soil; and Mal-Barad, billy and stony soil; Mattiari-Barad, clayey soil. In Dowlatabad, that prevailing on the higher tracts is generally of a heavy rich aluminous character, but the soil on the plains is principally a light and fertile loam, in either case of no great depth, and resting upon a rocky substratum. These two soils are derived from the wearing away of the surface rocks, the basalt going to form the stiff dark soils, whilst the amygdaloid greenstone disintegrates into a friable earth. The two mixing, form rich loamy lands. Such is the fertility of basaltic soils in general, that some are said to bear wheat cropping for thirty years in succession without a fallow.

The *Mahabaleshwar* Hills have a cellular ferruginous claystone as a surface rock, which disintegrates into a red clay. The soil consists of this red clay intermixed with the debris of trap-rock, and in many places with a considerable portion of decayed vegetable matter, forming a very productive brown mould.

Gujerat is one extensive plain, with many different soils. The prevailing varieties are the black cotton soil, and the light gorat, a grain-

producing soil. On the eastern side of the gulf, the black soil is chiefly confined to the collectorate of Branch and the few parganas of Surat which lie north of the Tapti. The light soil prevails throughout the state of Baroda, the collectorate of Kaira, and some of the northern parganas of Ahmadabad, becoming more and more mixed with sand as we proceed northward from the Mhye. The western and southern parganas of Ahmadabad, lying to the westward of the gulf, abound in black soil, as do many of the numerous valleys of Kattywar.

Gujerat, in the open districts, where the black soil abounds and cotton is most raised, has no boundary trees or hedges between the villages; the dividing line always consists of a strip of uncultivated land varying in width from 5 to 150 feet.

Bengal.—The general soil of Bengal is clay, with a considerable proportion of silicious sand, fertilized by various saline minerals, and by animal and vegetable products in a state of decay.

In all the Gangetic lowland, the upper layer of a well-raised tract always consists of alluvial mould, but the subsoil is sandy. The rivers which have had the longest course from the hills, deposit mud; the others leave behind them beds of sand; but the Ganges forms alternate layers of each. Hence a flood from the Gogra or the Sarju is injurious to the fields, while an inundation of the Ganges benefits the crops. Lands that are annually inundated or are thrown up by the action of rivers, are of various degrees of fertility, according as mould or sand predominates; where the sand preponderates, the mixed autumn crops, such as wheat and barley, or peas and grain, are largely sown. Where clays abound, as in the mattiara soil, and the fields are low-lying, the different pulses grow well. The tamarisk and thatch grass which grow on the alluvial lands near Faizabad or Allahabad, often yield as good a return as grain crops. An average acre of such manjha lands produces 150 bundles of sticks, of which the cutters and the proprietor share equally.

Where the lands in Bengal are good, and water abundant, three, or, as in Dinajpur, four crops are obtained.

Cachar has a rich alluvial soil, formed from the washing of the mountains which bound it on three sides, drained by the Barak or Soorma river, which deposits large quantities of silt. Teelah, in Assam, and Cachar, have low ranges of hillocks covered with dense tree forest, intermatted with reeds, grasses, canes, and creepers.

In *East Oudh* and in the *Benares* districts, the loams are called *doras* or *domat* and *kapsa doras*. In Gorakhpur the *doras* is called *bangar*. The best is the *doras*. The *kapsa doras* contains more adhesive clay, and gives less produce. Both these soils take much manure, irrigation, and labour, but produce two crops, and of every variety.

Mattiyar is the prevailing name of the soil of Oudh, Jounpur, Azimgarh, Gorakhpur, and Basti. It embraces all good argillaceous earth, from the brown to the black humic or relmic deposit found in the beds of tanks, but the black soil of Bundelkhand is also known by this name. It is of a darker colour than *doras*, is more capable of absorbing and retaining moisture; is slippery

when wet, very hard when dry, and is seldom manured. It is the finest natural soil, and its yield is equal to the *doras* and *kapsa doras* together. *Mattiyar* is arranged into *kapsa mattiyar*, this being again classed as *kapsa uparwar* and *kapsa kalar*. It also includes *karail* (black) and *bijar*. *Mattiyar karail* is found in the beds of tanks and jhils. *Mattiyar kapsa kalar* is similar to *mattiyar*, but has orange-coloured spots, and hence called *kahis* and *sandhrya*. Its yield is less. *Mattiyar uparwar kapsa* lies at a higher level, and yields less.

Bijar is as hard as *mattiyar*, but intermixed with very fine gravel. It resembles the *usar* soil; but *usar* produces *reh* or *sajji* in the dry season, which *bijar* does not yield. Only different kinds of rice are sown in it, and even these only when the *mattiyar* is unusually abundant. So well does the *mattiyar* retain moisture in Gorakhpur, that indigo sowings go on in March and April, the seed, being commonly rolled in, keep in the moisture. *Mattiyar* when irrigated is held to be the most productive of all soils; when unirrigated perhaps the worst.

Khalar soils of Oudh are low lands which retain moisture.

The *Saharunpur* district lands are called *adh-kach'ha*, *pahara*, and *tarai*. The first is between the two last. The *Tarai* soil is low moist land lying along the river banks.

Rotation.—It is a popular error to think that a double crop in the year is only obtained from the best manured lands, called *goind* or *gowhani*. The fact is, wherever the water supply is large in outlying lands, two crops are taken, but, in the N.W. Provinces, the agriculturist is usually content with one good heavy *rabi* or spring crop from the inlying lands. The very best of these last are reserved for wheat, sugar-cane, or poppy. Wheat may be grown two or three years running in such land, but natives are quite alive to the value of rotation of crops, and a very usual change is wheat one year, to be followed by (1) *Cytisus cajan* as a spring crop, but mixed with it is also sown *urd* (*Dolichos pilosus*), *kodo* (*Paspalum frumentaceum*), or *Sorghum vulgare*, as an autumn crop. These last grow quickly, and are cut before the *Cytisus cajan* has made much progress; that is then weeded, and the plough run through it, and left to mature in the spring. This rotation rests the land much, as the leaf droppings largely supplement the usual manure.

Another rotation for wheat is (2) to try for a crop of *makra* in the rains (always a precarious crop), and when that is cut, to put in barley or peas for the spring.

In the two crop lands proper, i.e. the outlying and low-lying lands near a swamp or other abundant water supply, rice (*dhan*) is grown every rains, and so soon as that is cut, barley and peas are sown, as a mixed or separate crop at pleasure, if they can be irrigated; or if they cannot be so, but yet there still be sufficient moisture in the soil to warrant the seed being sown, grain or peas are put in, and occasionally a sprinkling of barley is thrown in with them.

In *Sind* the soil near the banks of the river is in many places of a loose sandy description, but where this does not form the principal characteristic, it consists of a fine loamy rich clay, exceedingly fertile. Large tracts of land are,

however, impregnated with nitre, and are of course valueless for agricultural purposes. The hills in the back-ground are of sandstone and limestone, in which fossils occur.

In the *Panjab*, the classification of land is in two ways, viz. according to means of irrigation, and according to the nature of the soil. Even where terms descriptive of soil are employed, every class of land may also be described as *chahi*, if it be watered by wells; *abi*, if by ponds; or *chalar*, to be described hereafter; *sailabi*, if by flood and inundation of rivers; *pani mar*, if damaged by drainage floods; and *barani*, if dependent on rain.

The plain districts of the *Panjab* are subdivisions of *doabs*, i.e. tracts of country between two rivers. The names of the *doabs* are in all instances (excepting the first or *Jalandhar Doab*) the result of a rude attempt to join the names of the rivers on each side into one word. Thus, passing the *Jalandhar Doab*, between the *Sutlej* and the *Beas*, we come to the *Bari Doab* (*Beas* and *Ravi*). Then between the *Ravi* and *Chenab*, the *Richnah Doab*; between the *Jhelum* and *Chenab* is the *Jach Doab*. The last *doab* up to the *Indus*, takes its name from that river, and it is called *Sind Sagar*, the ocean of the *Sind* (*Indus* river). The *Panjabis* give the generic name *Daman-i-koh* or *Kandi* to the low hills that form the bases of the higher ranges, and in which such hill states as *Kotlah* and others are situate.

In the *hill districts*, including both hills and intramontane valleys, the best land is called *bari*; the second quality of land is called *ekfasi*; the third quality is distinguished by the name *shand*. This is allowed to lie fallow for two harvests, and is then cultivated only for the *rabi*. The fourth kind is *math*; it is a good quality of land, and is retentive of moisture, and will, if manured, yield two harvests in the year; the fifth kind is *regi*, that is, mixed with sand, or adjacent to the bed of a nullah or hill stream, *shelah*, which has washed down quantities of sand.

In the *Panjab*, deposits of moist alluvium extending along the bed of rivers, on which grow *tamarisk* (*pilchi*), *sarkanda*, and the *munj* (large grasses of the species *Saccharum*), are called *bela*. Land periodically inundated by the rise of the river is called *bhet*. It often has an efflorescence of *reh* or *kalar* (sulphate of soda), which renders it less productive.

Dusahi or *dosahi* is the same as *rohi*, except that it has some sand in it. *Misi*, again, has more sand, so that the soil is half and half sand and clay.

Shor is a kind of barren land, which swells after rain, and yields *reh*, an efflorescence which consists principally of sulphate of soda, and is fatal to the productiveness of any soil.

In the *Gujranwalla* district, the great subdivision of land is into high and low land, called *utar*, *netar*, the high lands being out of the reach of rivers, etc., the *netar* lands being on the banks, or otherwise subject to their influence. The *netar* lands are subdivided into *bhet* and *dhaya*, that is *sailaba* land subject to periodical inundation from the river, and land not so subject, respectively.

Rohi is the finest natural soil, a stiff loam which breaks up into large clods.

Doshahi is the *dumat* of *Hindustan*, a clayey soil, generally of good quality, manured by cattle

being folded on it. When manured, it grows cotton, fine wheat, barley, jowar, *makai*, melons, etc.

Mera, a mixture of clay and sand, the *rusli* of *Hindustan*, has many varieties, some very good, and equal to the best *doshahi*.

Tibbah, nearly all sand, the *bhur* of the provinces, worth very little, and only grows the inferior crops of moth, *mash*, etc.

Cis-Sutlej States have divisions of the soil, to a certain extent corresponding to the *netar* and *utar*, viz. the low lands, called *khadar*; lands which have at one time been the beds of the rivers, or have been flooded; and *bargar*, high land requiring irrigation by wells. These great divisions are subdivided, as *nyain*, loamy land cultivated with manure and artificial irrigation; *rusli*, good loam; *dakar*, a low-lying stiff clay, productive of rice and gram; and *bhur*, an inferior land with a large proportion of sand. Land that is inundated and generally unproductive for want of drainage, is called *choil*. In some of the sandy districts the names vary considerably. In the *Gugaina* district, for instance, where the soil is very bare, there is but little scope for all the varieties of inundated, irrigated, and other lands; if land is cultivable at all it is fortunate, and there is but little variety to distinguish. The most generally recognised names of the descriptions of culturable soil are *gusrah*, *sikand*, and *retli*. In the *Settlement Records*, the name *dakar*, which is locally unknown, was introduced by the *Hindustani* *amins* employed on the measurements. The equivalent term is *gusrah*. *Retli*, as its name implies, is land with an excess of sand, and *sikand* is a stiff clay soil, suited for rice; it is called in some parts *pakki chikni*.

The following names are known as names of soils and in husbandry in the various linguistic areas:—

Abi, in the *Panjab*, is an irrigation rate on land watered from tank or stream. In the N.W. Provinces it is applied to land watered from ponds, tanks, lakes, or water-courses, in distinction to that watered from wells, as the supply from the former is liable to fail in the hot season. *Abi* land is assessed at a lower rate, in some cases at less than a half of that watered from wells.

Agadi, of *Coorg*, a field in which seed is sown; a nursery.

Aghani, in *Bengal*, the great *dhan* or rice crop of the year, sown in *Asarh* (June–July), and cut in the latter half of *Aghan* (December).

Agor batai, in *Bengal*, a division of the crop between the landlord and the cultivator of it, after it has been cut, stored, and threshed.

Ahar, of *Bengal*, is an embankment raised to catch surface drainage for purposes of irrigation.

Ail, of *Bengal*, a bank or ridge of earth forming a division between fields.

Aima, of *Bengal*, a land grant by the *Moghul* government, either rent-free or subject to a small quit rent, to learned or religious persons of the *Muhamadan* faith. *Aima* *bar-yaft* are such grants subsequently assessed.

Aitho, of *Sind*, exhausted land lying fallow.

Ajjar, of *Bengal*, land not subject to diluvion.

Akasia, of *Bombay*, land dependent on the natural rains, or occasionally watered from tanks or rivers.

Aman, of *Bengal*, a rice crop sown on low wet ground about July or August, and reaped in December.

Aman are low lands yielding one crop a year.

Awal, *duam*, *siam*, *charam*, *panjam*, *shasham*, *haftam*, are *Persian* words signifying, as applied to land, soils of the first to the seventh rate qualities. In *Gujerat*, previous to the survey, this was a mode of classifying land; its distance from the village and facility for irrigation were taken into account in the classification.

- Badli, in Bengal, high-lying rice fields, which yield scantily.
- Bagh, of Northern India, a garden, an orchard. Bagh-yat, garden or spade culture, for such articles as betel, chillies, garlic, ginger, hemp, plantain, saffron, onions, sugar-cane, pepper, tobacco, and other vegetables; it is assessed at a higher rate than arable lands.
- Baghelkhand, the prevailing classes of soil are mair, seigawan, domat, and bhata. Mair is a black soil which retains water and moisture well, and needs no irrigation.
- Ballu, of Bombay, the first sort of rice land, producing in general two crops of rice and one of dry grain or vegetables, or sometimes three crops of rice in the year.
- Bajal, of Bengal, a rice crop sown in May or June, and reaped in October.
- Balla or Bullah, of Coimbatore, a dry land measure = 166,464 square feet, or 3'83 acres.
- Balsundar or Balthaar, of Bengal, sandy soil.
- Ban, of Surat and Broach, land covered by salt water at spring tides, a salt-water marsh.
- Bani or Bandh, in Urdu, a dam, an earthen embankment. Bandara is a masonry dam.
- Bangar, in Bengal, a variety of soils, high grounds, uplands, stiff clay irrelative of moisture. In Gorakhpur, bangar is a silicious soil, and bhat a calcareous soil.
- Banjar, waste land, fallow land. Adi banjar, immemorial waste land. Banjar jadid, recently waste. Banjar kadim, culturable land long left uncultivated.
- Bankar, a red soil of Bundelkhand, a mixture of sand and clay, and yields 191 lbs. of cotton per acre, two-sevenths being the proportion of cleaned cotton.
- Bar; high and somewhat sandy tracts in the centres of doabs, and equidistant from river influence on both sides, are almost universally called bar.
- Barad or Burrud, of the Dekhan, stony and sandy inferior land. Lal-barad is red gravelly soil; pilabarad, yellow soil; mal-barad, stony soil.
- Darani, of Sind, unirrigated lands cultivated by the natural rains. In Mysore, lands sown at the beginning of the rainy season, 27th April to 2d May, when various grains are sown.
- Barar, of Bengal, alluvium.
- Barattu, of Bombay, unculturable land.
- Bard or Bardi, of Berar and Central Provinces, stony soil near hills, a light sandy soil.
- Barike, of Coorg, low swampy land adjacent to or below the rice fields.
- Basmati, of N. India, the best kind of rice, meaning odorous. There are about 200 varieties of rice.
- Bat, of Bengal, fallow land.
- Belo, of Sind, forest.
- Bena, of Bombay, grass land on the borders of cultivated land.
- Besur or Beynur, of Bombay, a good, productive soil, with the gorat and kali qualities, but is inferior to pure gorat.
- Bett, Betta, Boru, Belt, or Bhat, of Bombay, high-lying land imperfectly irrigated, yielding but one crop a year, and of inferior grain.
- Bhadai or Bhadiu, of Bengal, rainy weather rice crop, sown about Bysakh, and cut in Bhadaï (August—September), autumn crops.
- Bhalyachara, of Oudh and N.W. Provinces, a coparcenary estate held in severalty.
- Bhal, of the Indus delta, a kind of rice cultivation.
- Bhar is sand of a white or greyish-white colour.
- Bhata soil, to the north of the Ganges, which retains its humidity for a long time, and contains a large quantity of nitre; it is not found west of the little Gandak river.
- Bhatha, of Bombay, literally flood deposit, alluvial deposit, left in the bed of a river either by the water receding or the river changing its course. Being always moist, it is very productive, and all the more valuable agricultural products can be produced. It is of the Goradu class of soils.
- Bhit or Bhihi, of Bengal, raised ground near a tank, for planting the piper betel on.
- Bhumi, of N. India, land, earth, culturable land. Bilu-bhumi, of Bombay, is waste land, and in Dharwar is arranged in six classes, viz. :—
- Gairan, free grazing ground.
- Gaathan, the village site.
- Khrab, uncultivated waste land.
- Kuran, grazing land.
- Hulabamu, grass land which is farmed.
- Turmandi, a vacant space in the village where cattle stand.
- Bhur, Bhud, Bhuda, unproductive soil, seven-tenths sand, rest clay, sandy soil, not retentive of moisture. Bhud-khaki and Bhud-parani are varieties of it.
- Bhur, answering to maira, is a light sandy soil; the better kinds of it produce bajra, moth, mash, and jawar.
- Biali, of Orissa, a rice crop sown about May or June, and reaped in October.
- Bid, of Bombay, grass land.
- Bijar soil of N. India is a stiff clay soil lying low, chiefly sown with rice only; sometimes grain is also grown; sometimes, as in Rai Baraili, this land fetches high rents. It is the land classed as mattiyar, and is generally inferior to domat.
- Bijibur, of Berar, failure of crop sown, owing to seed not germinating.
- Bindi, of Sind, sailab lands in the river.
- Burki, of Bombay, a masonry structure for drawing water from rivers.
- Chah, PRRS., a well. Chahi, land irrigated from wells.
- Chahal, HIND., is a strong soil ranking between rousai and dakura.
- Chanch, of Bombay, the Jecla or Jeclun and the Pe-cottah of the Madras Presidency, a contrivance for raising water, upright stand supporting a transverse beam, with a waterpot at one end of the lever, balanced at the other by a stone or clay.
- Charsa, of Panjab, a leathern bag for raising water for irrigation.
- Chasa, of Bengal, a cultivator, a husbandman, a ploughman.
- Chatar, of Bengal, a blight.
- Chatali, of Bengal, a pulse crop, reaped in March or April.
- Chatan, of Bengal, uncultivated land on the bank of a river.
- Chau-masa, of Oudh, lands tilled during the four rainy months of the S.W. monsoon, June to September, set aside for the best crops.
- Chaytra, the Bengal month, parts of March and April.
- Chet, of Sind, is the spring crop.
- Ch'hut, of Sind, lands sown broadcast.
- Choil. Low lands that receive the drainage of neighbouring uplands, and cannot carry it off, so that it lies, are called choil. They are unproductive for want of drainage. High tracts from which the water drains off quickly, are called magra and thalli.
- Chuni, of Sind, a ploughshare.
- Dania, of the Central Provinces, is the Kumari of S. India, and Jhum of Burma and Chittagong Hill Tracts, land cultivated by burning down the forest woods or brushwood, and sowing seed on the ashes.
- Dakra, Dakara, or Dhakar, HIND., of the Upper Doab, is a stiff dark clay lying in natural dips and hollows, where water collects and lies during its rains; it dries into hard cakes.
- Daman, of Sind, shallow soil.
- Dang, of Bombay, forest or jungle land.
- Dangar, of Bombay, rice crop raised as one of the kharif or monsoon crops. It is sown in kyari or black soil, at first in Daruvadi or small beds of the richest soil, and in July or August transplanted into beds which had previously undergone three or four ploughings while in a flooded state. The crop ripens in October. There are six varieties,—alaichi, karnod, pankhali, sathi or vari, and sutar-sai; the first and last are the most common.
- Darya, a river. Darya barāmadī, of Sind, land thrown up by a river. Darya burdi, land eroded suddenly in large masses. Darya khurdi is land gradually eroded by running water.
- Dhan, URDU, a growing rice crop, also unhusked rice; in Malay padi, English paddy. In Bombay, the dhan crop is the main grain crop, consisting of bajra (*Penicillaria spicata*), banti, bavra, jowari (*Sorghum vulgare*), and kodra (*Paspalum scrobic.*).

The dhan crop is in contradistinction to the kathal or pulao crop. Dhan khet and dhan marri mean a rice field.

Dehar and Kalyar or Khalar, in Oudh, are low lands flooded during the rains. Dehir are lands flooded in autumn.

Dhaas, of Midnapur, high land close to a village, yielding two crops.

Dhekudi, of Bombay, a contrivance for drawing water from the beds of rivers. Dhekudiat is land so irrigated.

Dhenkil, of Bengal, a lever used for raising water for irrigation. See Chancho.

Dhulna, of Orissa, a rice crop grown on low marshy ground during the cold weather, and reaped about March or April.

Dinrah or Diyara, of Bengal, Benares, Ghazipur, alluvial soil, an islet in a river bed.

Do-fasla or Do-fusli, of N. India, land producing two crops in a year.

Dol, URDU, a leathern bucket used for drawing water from a well.

Done, of Bengal, low rice land.

Doomuteen, in N. India, is of a light-brown colour, soon powders into fine dust, and requires much more outlay in manure and labour than the mattiyar soil.

Doras or Dores, of Bengal, land half sandy and half clay.

Doshahi is the dumat of Hindustan, a clayey soil, generally of good quality, manured by cattle being rolled on it. When manured, it grows cotton, fine wheat, barley, jowar, makai, melons, etc.

Dumat, of N.W. Provinces, a soft loam, land of first quality, consisting of clay and sand.

Dumbi kali, cracked black soil; it absorbs moisture largely.

Eri bhumi, of Dharwar, is black soil, of which five kinds are recognised, viz. :—

Uttama eri, first class black soil, without stone or impurities.

Kurli eri, hard or gravelly black soil.

Hulaka eri, a kind of black soil in valleys.

Sona burali, black soil mixed with lime.

Gocha eri, a very black kind.

Eri, TAM., the bund of a tank, the bank built for retaining water in a reservoir.

Eru kumke, of Coorg, a plough tax levied as an educational cess at 3 or 4 annas a plough.

Eru, URDU, manure.

Fasli, in the N.W. Provinces, a crop, a harvest. Fasli, the harvest or revenue year. There are two principal harvests in the year, the rabi and the kharif. The rabi or spring harvest consists of grains and pulses, wheat, barley, peas, grain (*Dolichos*, sp.), oil-seeds, arhar (*Cajanus Indicus*), and other crops, which are sown in October and November, and are reaped in February, March, and April. The kharif or autumn crops are sown before or at the beginning of the rains in June and July, and reaped at their close in October, November, and December; generally, in Bengal, all crops reaped at the closing months of the year. The outlying fields, which are lightly cultivated, yielding one crop annually, are called palo, also ek-fardi, also ek-fasli. Do fasli, also Jutiyan, are lands which bear two harvests a year.

Gadde, of Coorg, an irrigated field. In Bombay, wet or paddy lands fit for rice cultivation, or on which rice is grown.

Gairan, of Bombay, open pasture ground unsuited for cultivation.

Gharbai, of Oudh, irrigation done by hand.

Goera or Nyain is a term applied only to lands in the vicinity of wells and villages, which are abundantly irrigated and manured. Actual desert soil is called thul.

Gohani, Gorat, Bhumi, and Goind, land round a village. Goind, manured land around a village.

Gojai, of Bengal and Oudh, a crop of wheat and barley grown together.

Gomala, of Mysore, land set apart for grazing pasture land.

Goradu, of Bombay, land of light colour, varying from almost mere sand to soil of the richest quality.

Its fertility depends on proper culture and abundant manuring. It somewhat resembles the gorad land of the Jambusar district of Broach Zilla. Goradu kanetar is goradu irrigated either from wells, rivers or tanks; Goradu kuvetar is dry goradu; Goradu padar is the poorest description. The kharif crops are mostly grown on it,—arad, bajra, banti, baota, bhinda, begon or rigna, chana or gram, chola, chillies, cotton, dhangar or dry rice in small quantities, erandi, garden products, govar, jowar, kang, math, mung, pan, sugar-cane, tobacco, tur, tal, and val.

Gorat, of Bombay, seems to be the same as goradu. It is a sandy soil of a light-brown colour, and varying from a reddish-yellow to brown, quite free from stones. It absorbs the rain rapidly, and never presents a broken surface in the dry season nor a muddy one in the wet. Fine water is found in almost every part of it at 30 or 35 feet from the surface. This soil is often watered and used as baghni or garden land. It is one of the richest descriptions of soil, and produces in rapid succession the most luxuriant crops; it abounds with fine trees, growing to the largest size, and having the most flourishing appearance. It requires to be well manured. From its great fertility the weeding is more troublesome and expensive than in other lands, the cost of cultivating it being altogether double that of the inferior black soil. The crops mostly produced are the kharif crops, and very little cotton or rawi jawar is grown on it. Dhan or grain and kathor or pulse are sown in it at the same time. The other principal articles are bajra, baota, kodra, javar (a little), kapas (a little), dhangar, dry rice in small quantities, math, tawar, tal, erandi, val, mung, arad, chola, govar, banti, chann (gram), kang, bhinda, pau (indigo), tobacco, sugar-cane, begon or rigna, chillies, plantains.

Gorcharan, of Bombay, common pasture.

Gothan, of Bombay, ground set apart for cattle pasture.

Gowria, of Oudh, a variety of paddy sown in June and October.

Har, of Oudh, a block or tract of land in a village, of the same quality.

Hari, of Bombay, the third crop, succeeding the kharif or monsoon crop, and the rabi or second crop. It consists generally of kang (*Panicum Italicum*) and chana (*Cicer arietinum*), and the poorer kinds of grain, brought forward during the hot season by irrigation.

Harte kunta, of Coorg, a clod-crusher.

Hemanta, of Bengal, the cold months; a rice crop ripening in December.

Jaihan, of Oudh, nursery rice.

Jawan, of Bengal, a kind of rice.

Jal, of Bengal, water. Jali-dhan, a rice crop sown in marshy land about April, and reaped about July.

Jawaru, of Central Deccan, as much land as can be ploughed by a pair (jora) of bullocks at Delhi in half a day.

Jeelun, of Bombay, the P'e-cottah of the Tamil country.

Jethi-dhan, in Oudh, a rice sown in April along the banks of rivers, or where water is still lying, and cut in Jethi. Jethi sawan (*Panicum frumentaceum*).

Jot, in Bengal and N.W. Provinces, the land held by a cultivator. Jotidar, the actual cultivator.

Kabar, a black soil of the N.W. Provinces of inferior quality to mar.

Kachi'li, of Oudh, garden lands.

Kachq, of Sind, alluvial land thrown up by the river Indus.

Kali, of the Mahratta, is arable land in general, but named from its black colour. It is a black soil or mould, and land of a superior quality; the underlying ground in the Dang receiving and retaining moisture during the cold season, and especially fit for wheat and other spring crops.

Kali bhui, of Bombay, regur or black cotton soil; it is the soil of the great volcanic district of the Dekhan north to Malwa, Ahmadabad, Branch Collectorate, Kaira, Patliawar, and Surat. It is very retentive of moisture. The crops sown on it are jowar (*Sorghum vulgare*), kapas or cotton, gulun or wheat, dan-

- gar or dry rice, chana, the Cicer arietinum, Bengal gram, castor-oil plant, rapo seed (Rata tallar tall), mung (Phaseolus mungo), and tour.
- Kali chunkari, black cotton soil overlying lime, which renders it very unproductive.
- Kalr, of N.W. Provinces, barren land unculturable from red efflorescence, salt, or other reason.
- Kalr is a salt efflorescence which is observed in many places. Sometimes it extends over large tracts of land, rendering them almost entirely unproductive; they are called kalri samin.
- Kalruti, saline land.
- Kanwai, HIND., clayey soil, in Puranya, in muddy hollows, which in the dry season is formed into detached nodules by the action of underground springs.
- Kapale, of Mysore, apparatus for raising water for irrigating fields from a well or tank, worked by oxen on an inclined plane.
- Kar or Karu, in the south of the Peninsula, the chief rice crop, watered in October, November, and December by the rains of the N.W. monsoon. In the northern districts it is the crop sown in April, and reaped in June or July.
- Karas, of Berar, land at foot and top of hills.
- Kashtgar, of Sind; Kashtkar, of Bengal, a cultivator.
- Kashtgar mirasi, a hereditary tenant.
- Kashtgar pali, a non-resident tenant.
- Kashtkar delhi, of Bengal, a resident cultivator.
- Katta. In the Northern Circars, katta rogur is a stiff loam, and katta sauda a black soil, from Katta, a clod of earth.
- Kowaldas, MAHR., is a black soil.
- Khadar or Khadir, HIND., low or alluvial lands easy of irrigation, and especially fit for rice cultivation; also rice beds or patches of ground surrounded by low banks, so as to confine the water and moisten the ground for rice cultivation. In some places, moist, alluvial ground, on which barley and wheat are grown.
- Khajjan, a salt marsh or meadow land; land near the sea shore or inlets, and liable to be flooded.
- Khaki is a soil or land that cannot be irrigated, and depends wholly on rain.
- Khulati, MAHR., low rice grounds about a village. Low country on the upper part of the Malabar coast, descending from the Sahyadri mountains to the sea.
- Khar, Kshur, or Karu, alkali, alkaline earth, soda, impure carbonate of potash or soda.
- Kharif, the autumnal harvest, the crops of which were sown before or at the beginning of the rains, in June or July, and reaped at their close, in October, November, and December.
- Kharpi, of Bombay, a trowel, a spade, a small hoe.
- Kharri, resembling the mar of Bundelkhand, is a black earth common in the lowlands and in the plateau south of the Ganges. It produces a good spring crop without irrigation, but its character is much improved if sand is spread over the surface; otherwise it is liable to dry up into deeply-fissured masses of hardened clay.
- Khet-wahyuk, of Bombay, arable, fit for cultivation.
- Khejar zamini, of Sind, bad land.
- Khet, HIND., a field. Kheti or Kheti wari or Khet karn, agriculture, cultivation.
- Khuri, of Bombay, a bed in a garden or field.
- Kollai, TAM., dry soil, high ground not capable of artificial irrigation. Kollai payir, grain growing on high ground.
- Kolpe, of Bombay, a hoe drawn by bullocks.
- Korkul, of Bombay, land spoiled for cultivation by running water.
- Kos, of Bombay, a leather bag for drawing water from a well; these are of two kinds, the Ramia kos and Sudini kos.
- Kahetra, a field cultivation, crop.
- Kyadee or Kyado, the bed prepared for rice growing, with or without artificial irrigation.
- Kyne, of Burma, vegetable cultivation.
- Ky-ne-mnyay, garden land near water, not cultivated during the rainy season.
- Laterite soil is not very productive, and if not continuously cultivated the laterite rock becomes hard and bare, and checks all vegetation.
- Lavani, of Bombay, agriculture, cultivation. Lavanidar, cultivator.
- Lay, of Burma, a paddy field.
- Lewa, of Bengal, rice field prepared for broadcast sowing.
- Made bhumi, of Bombay, land in the bed of a tank or river.
- Maduri, SANSK., land beyond the influence of the sea, free from any saline impregnation; in opposition to namaki or saline lands, or such as, having been washed by the tide, salt can be made from.
- Magani, KARN., TEL., wet cultivation by artificial irrigation.
- Majal, of Mysore, a second class of rice land, yielding one crop of rice and one of vegetables or dry grains.
- Makha, of Mysore, rains falling between 14th and 27th August; tobacco and wheat are sown at this time.
- Makki, culturable land covered with thick jungle; the worst kind of rice land.
- Malai, MAHR., alluvial deposits.
- Mal-zamin, MAHR., open country, barren or uncultivated plain; lands of inferior quality or on the sides of hills or on ridges, which, although they can be ploughed, cannot be irrigated, and produce only autumnal crops.
- Manal, TAM., sand. Manalachari, soil mixed with sand. Manal taram, sandy soil.
- Manavari, of the Tamils of Malras, rice crop depending solely on rain, not being irrigated.
- Mani, of Coorg, unculturable fields on a high level, on which water will not remain.
- Manjli, HIND., or manjha land is that lying between the land in the immediate proximity of a village and that on the boundaries of its lands. It is considered the second sort of land in point of fertility. In Oudh, marsh land bordering on lakes or rivers.
- Mannu, TAM., soil. Four kinds of rice-field soils are reckoned in Coorg, viz.
- Adimannu, low-lying soil, which is considered the best, because it receives the nourishment from all above it.
- Karimannu, black soil unfit for rice culture.
- Talemannu, top soil (i.e. best soil).
- Nadumannu, middle (moderately good) soil.
- Other nine kinds of soil are recognised in Coorg —
- Arasinamannu, yellow earth.
- Bromannu, clayey soil.
- Usubumannu, sandy soil.
- Kalur mannun, unproductive soil.
- Kullu mannun, stony soil.
- Kempu mannun, red earth.
- Choulu mannun, unproductive saline soil.
- Jedimannu, clay, potters' clay.
- Jilimannu, white earth, white clay.
- Mar or Maar, HIND., in the N.W. Provinces, a stiff clay or loamy soil, with some sand and vegetable mould; a variety of it is called kabar. In Bundelkhand it means a rich, black loam. See Purwa.
- Marul, MAHR., soil of a light-black colour on the banks of rivers.
- Marwa, GUJ., one of the two principal sorts of soil in Gujarat; a sandy soil of a light brown colour, rapidly absorbing rain, and having water at great depth. It requires manure, but, treated properly, yields the best crops both as to quality and quantity; valuable for wheat and cotton.
- Mattaria, HIND., a rich, clayey soil, mixed with a small proportion of sand, one tenth of siliceous, and the rest alluvial mould. Matyar is the equivalent Hindustani term of rohi, misar of misri, and dunat of doshabhi.
- Mera, a mixture of clay and sand, the rasul of Hindustan; has many varieties; some very good, and equal to the best doshabhi.
- Metta, TEL., high and dry land not capable of irrigation, but depending on the rain; unfit for rice.
- Misan, HIND., a soil mixed of clay and sand, sometimes considered as the best kind of soil.
- Mowat or Mawat, MAHR., soil of a mixed kind, of a light-black colour.
- Mula, of Mysore, rains falling between 12th and 26th December. Cumin, coriander, tobacco, and other seeds are sown at this time.
- Mungari, of Bombay, the early crop which is sown about the beginning of the rains, and reaped early in the cold weather; in Mysore, the rains of the S.W. monsoon.

SOIL.

My-ai, BURM., land. My-ai-loot, of Burma, waste land. Myal, MALEAL, lands on which rice plants are sown thickly for the purpose of transplanting; land watered by rain.

Nachohu, TEL., waste land overrun with knot-grass. Nijuri, in the Hyderabad assigned districts, land lying fallow from exhaustion of soil.

Nunjah, Nanjai, in Madras, irrigated land in distinction to Punjah dry land.

Obar land is of two kinds, todah and khil. Todah are those little hanging fields like steps rising one above another, and are built up at their lower edge with stones, and which are liable to destruction by being washed down when the rain is violent. If the land be good, it is called 'awal kism' or first class; if stony and bad, 'duyam kism' or second class. Khil land is that which is broken up with the hoe on the steep slopes of a hill; it is too steep to be ploughed. These kinds of soil are observable through many hill districts. In the hill districts bordering on the Ambala divisions, and Kotahah in the Ambala district, the land is divided into kulahu, land watered by kul (water-courses supplied from an artificial pond formed by damming up the hill streams), and obar, which is the same as barani, land dependent on rain for its irrigation.

Oosur soil appears to be formed by a superabundance of one or other of the salts or their bases, which are brought to the surface from the beds below, and not carried off or taken back into these beds. It is known that salts of ammonia are injurious to plants, unless combined with organic acids, supplied to the soil by decayed vegetable or animal matter. This matter is necessary to combine with, and fix, the ammonia in the soil, and give it out to the plants as they require it. It is possible that nitrates may superabound in the soil from the oxidization of the nitrogen of a superfluity of ammonia. The natives say that all land may become oosur from neglect; and, when oosur, can never be made to bear crops, after it has been left long fallow, till it has been flooded with rain-water for two or three seasons, by means of artificial embankments, and then well watered, manured, and ploughed. When well tilled in this way, all but the very worst kinds of oosur are said to bear tolerable crops. In the midst of a plain of barren oosur land, which has hardly a tree, shrub, or blade of grass, are seen small oases, or patches of low land, in which accumulated rain-water lies for several months every year, covered with stout grasses of different kinds, a sure indication of ability to bear good crops under good tillage. From very bad oosur lands, common salt or saltpetre, or both, are obtained by digging out and washing the earth, and then removing the water by evaporation. The clods in the mattiyar soil not only retain moisture, and give it out slowly as required by the crops, but they give shelter and coolness to the young and tender shoots of grain and pulse. Trees, shrubs, and plants of all kinds everywhere derive carbonic acid gas and ammonia from the atmosphere, and decompose them for their own use in the same manner.

Padu, Padusara, Padakara, Uttarapada, Padit, and Padaya are Mahraiti terms for fallow or uncultivated lands.

Paistaw, in N.W. Provinces and Bengal, alluvial accretions.

Pallamu, TEL., low lying ground.

Parampa or Paramba, MALEAL, garden land, a private estate.

Parampoku, in Mysore, uncultivable land.

Parti, in N.W. Provinces, fallow land.

Pasama or Pasama kur, of the Malacalm country, from Passa, paste or glue, is the best quality of soil; it is adhesive and tenacious.

Patla, TEL., is rice land yielding an intermediate crop between the first and second crops, being under water during the wet season.

Pilota is a poor, friable, yellow or dark-red coloured soil, which does not retain moisture.

Podu, TEL., land cleared recently from thicket and prepared for cultivation.

Punchanilam, TAM., also PUNCHPUTTAM, MALEAL,

SOIL.

wet land, or land capable of irrigation and of bearing rice crops.

Punja, properly Punshey, TAM., land not admitting of complete irrigation, and unfit for rice crops, but bearing dry crops. It is the converse of nanjai.

Pur, of Oudh, a large leather bucket for drawing water from wells, by bullocks or by hand.

Purua, of Bombay, a spud.

Purvabhadra, in Mysore, a rain commencing between the 2d and 14th March. Purvashadha, a rain between 26th December and 7th January. Cumin, coriander, tobacco, and other seeds are then sown. Pushia, a rain between 17th and 30th July, when grain is sown.

Purwa is a reddish soil in Bundelkhand, a mixture of sand and clay, yielding 191 lbs. of cotton per acre, two-sevenths being the proportion of cleaned cotton. Mar or Maura, black marl of Bundelkhand, of the first quality, is the most productive soil in the country for cotton, and yields on an average 286 lbs. of cotton per acre, one-third being the produce of clean cotton to the raw produce. See Mar.

Rabi. See Khairi.

Rakar is the poorest of all the soils, and is only productive when the rains are abundant. It has a large mixture of kankar in it.

Rakh or Rakhui, URDU, a grazing and timber preserve. Ramp or Rampadi, of Bombay, a weeding plough or hoe. The Rampoh or Kalpi, Hathia, Rampdi, and Danda are of different sizes.

Ranwa, waste or woody ground in the vicinity of a town or village.

Rasi, MALEAL, is a mixed soil, consisting of sand and clay. Rasi kur, poor light soil. Rasi pasama kur, middling sort soil.

Rausli is a light loam, producing all crops except rice. It is soft and easily worked, consisting of clay and sand; it is mostly like, though superior to, the doshahi in the Panjab series.

Reg, PERS., also Ret, HIND., sand.

Regur, also Kali bhumi, HIND., Regati, CAN., and Regada, Regatti, TEL., the cotton soil and black cotton soil of Europeans, in a black soil, the wonder of all who have seen it. David Boswell Reid says (Edin. Phil. Journ., 1829) it consists of silica in a minute state of division, with portions of lime, alumina, and oxide of iron. The proportion of vegetable and animal debris appears to be very small; minute portions of the roots of vegetables are seen with the naked eye. It fuses readily before the blow-pipe into a dry, black slag. Dr. Voysey fused it into a thick glass. In composition it nearly resembles that of basalt. It is spread over the great volcanic outburst of the Dekhan, varying in depth from 2 to 30 feet. It is the larger part of the soil of Western Gujerat, occurs largely in Malwa, through Berar, over all the Western Dekhan, in the valleys of the Hyderabad territories. It is observed in the Southern Mahratta country, and in large tracts of the Ceded Districts. It is less common in Mysore, but farther south is again seen in continuous sheets from 6 to 20 feet thick below the Salem break, covering the lower plain of Coimbatore, Madura, Salem, Trichinopoly, Tanjore, Rammad, and Tinnevely, to the vicinity of Capo Comorin. The purest regur is of a deep bluish-black colour, or greenish or dark-greyish black, shining; when placed in water, it crumbles slowly, with emission of air bubbles, and forms a tenacious paste. When moistened, it gives out an argillaceous odour. Before the blow-pipe it melts into a greenish glass or dark slag. Mr. Reid fused some of it in a large covered crucible placed in a furnace into a solid mass, on the surface of which a crust of oxide of iron formed. Dr. McLeod found it composed of

Silex,	48.2	Oxide of iron, . . .	1.0
Alumina,	20.3	Waterand extractive, .	4.3
Carbonate of lime, . .	16.0		
Carbonate of magnesia,	10.2		100.0

The muriate and carbonate of soda are frequently accidental ingredients in the composition of the regur. They render it sterile when in large quantities. Captain Allardye informed Captain Newbold that the regur of Trichinopoly does not

fuse, and contains imbedded crystals of pure mineral carbon, which are converted before the blow-pipe into a white ash. The best kinds of this soil are rarely suffered to lie fallow, except by accident, and never receive manure, which is even supposed to lessen its fertility. It has yielded annually, crop after crop, for upwards of 2000 years (usually in triennial rotation), of cotton, sorghum, and wheat, or bajri (*Penicillaria*), without receiving any aid from the hand of man, except an annual scratching with a small plough, and a decennial, or still more seldom, clearing of nuth grass by means of the large plough. It is irrigated solely by the dews and rains of heaven. It is remarkably retentive of moisture. Dr. Turnbull Christie thoroughly dried a portion of it by a heat nearly sufficient to char paper. He then exposed to the atmosphere of a moderately damp apartment 2615·6 grains of it, and found after a few days it had gained 147·1 grains. He now exposed it to an atmosphere saturated with moisture, and found that the weight increased daily till the end of a few weeks, when it was found to weigh 2828·4 grains. The soil had therefore gained 212·8 grains, or about 8 per cent. In wet weather the surface is converted into a deep tenacious clay. During the dry season, when the crops are off the ground, the surface of regur exhibits a black, drear aspect. Contracting under the powerful heat of the sun, it is divided, like the surface of dried starch, by countless and deep fissures, into figures usually affecting the pentagon, hexagon, and rhomboid. While the upper part for a few inches in depth is dried to an impalpable powder, raised in clouds by the wind and darkening the air, the under portions, at the depth of 8 or 10 feet, retain their character of a hard black clay, approaching a rock, usually moist and cold, when the surface dust has a temperature of 130°. The purest beds of regur contain few rolled pebbles of any kind. Professor Orlebar informed Captain Newbold that in Gujerat it is distinctly stratified, and in the Beder district it is distinctly in layers, sometimes separated by thin layers of sand or gravel. Regur is undoubtedly the best soil of the Peninsula, and its absorbent quality bears out the result of Sir Humphrey Davy's experiments, which showed that the absorbent power of soils with respect to atmospheric moisture, is greatest in the most fertile soils. He dried 1000 parts of a celebrated soil from Ormiston in East Lothian by a heat amounting to 212° Fahr., and found that by one hour's exposure to air saturated with moisture at a temperature of 62°, it gained 18 grains.

Regur, in the Bellary district, produces two kinds of crops, called mungari and kingari. It covers one million of acres, from 1 to 12 feet deep. It has, mixed with it, decomposed felspar, gritty particles of quartz, and is often covered with angular quartzose pebbles; ferruginous quartz and jasper; water is rarely found in these black lands, except at great depths. In the Cuddapah district, the decomposition of the limestones, calcareous veins, clayslate, and sandstones imparts a lighter colour and a looser texture to the regur. Underneath it generally is a kankar deposit resembling white gravel.

The garden soil of Bellary generally consists of regur and mussuh soil, mixed with manure of decayed animal and vegetable matter.

In breaking up black soil, the farmers use a heavy plough drawn by five to eight pairs of the strongest cattle, generally buffaloes, and plough it 15 inches deep. The labour and expense is enormous. The ploughshare is a heavy three-cornered block of hard wood; the bar is 12 feet long, and besides the ploughman, two or more drivers manage the bullocks.

Mussuh or mixed soil in the Ceded Districts is double that of the regur. Red soil in Bellary district, 2½ millions of acres.

In the neighbourhood of granitic elevations or protruding beds of gneiss and large pegmatitic veins of quartz and felspar, the débris of these rocks decomposes into a light red soil, termed mussuh by the natives, which is only capable of producing the

mungari crop. This soil is sometimes extensively deposited in low situations by the force of streams or torrents of rain, when it becomes a *terrein de transports* or alluvial soil.

Reh, saline inflorescence, salts of soda abounding in some soils, and rendering them unproductive. In the N.W. Provinces, the deterioration of land by reh first attracted serious attention in the villages along the Western Jumna Canal and its branches, about Dehli, Panipat, Rohtak, and Karnal. In 1857, Mr. Sherer, Joint Magistrate of Aligarh, went on deputation to examine the tracts of country deteriorated, and the picture presented by him of the suffering in some of the villages was truly deplorable. Out of 580 canal villages, 59, or nearly 10 per cent., had been injured in degrees ranging severely to partially, 6 per cent. being severely injured. The maximum appeared to be reached in Panipat, where 46 villages, or 19 per cent., were injured out of 242. The salt effloresces in several parts of the Panjab where there are no canals at all; in these places it appears in land irrigated from wells, where the water is very far from the surface. The salt itself consists of sulphate of soda, with a variable proportion of chloride of sodium (common salt). In some of the instances given by Dr. O'Shaughnessy, the percentage was high; at Jagu, in Panipat, it was 20 per cent., and this consisted of abundance of carbonate of soda with sulphate and chloride of sodium and lime. As far as experience goes, lands near canals, like the old Hoshi, in the Lahore district, constructed at, but not below, the ordinary level of the watershed, are usually found to be free from reh efflorescence. Drainage is to a certain extent a palliative and a cure, but, generally speaking, the farmers assert that fully impregnated reh land is incurable and valueless. In gardens and small plots, it has been found useful to dig out the soil to the depth of two feet or so, entirely, and put in fresh. Dr. Brown, chemical examiner for the Panjab, has demonstrated that nitrate of lime would succeed.

Rohi is the finest natural soil, a stiff loam, which breaks up into large clods.

Sada or Sarn, HIND., the surface of land long under water, and covered with smooth, decaying vegetation.

Sailabi, of N.W. Provinces, land watered by floods or inundations, and thoroughly soaked.

Sankhu, of Bombay, fallow land.

Seota is a rich loam or mould of varying fertility.

Seri, MAH., arable land originally, for some cause, excluded from the village assessment; in Telingana, land cultivated by ryots for the state; also waste land or in dispute; also ploughed land.

Shola, of Neilgherry Hills, a grove, a copse.

Shor, of N.W. Provinces, barren land, saline, salt, brackish.

Singa, in Bengal, second-class rice lands, inferior to garha, and superior to bud'h.

Siwai, HIND., a mixture of clay and sand, suited for any soil except rice.

Suggi, of Coorg, harvest time, spring harvest.

Tadal, PANJ., TAM., high land, incapable of irrigation.

Tal, pl. Tallaon, HIND., low ground. Tal-chua, light land above clay, which soon becomes soft and spongy in wet weather.

Talayari, MALAC., a chief, a headman.

Tarat, in N.W. Provinces, low, moist lands; moist, marshy ground along the banks of rivers or at the foot of the Himalayas, but especially the tract running along the foot of the first range of the Himalayas for several hundred miles, and two to fifteen miles broad.

Taram, of Southern India, different kinds of arable land.

Taw myay, of Burma, jungle land.

Thal, of the Panjab, grazing ground.

Tibbah, nearly all sand, the burr of the provinces, worth very little, and only grows the inferior crops of moth, mash, etc.

Toung, of Burma, a hill. Toung gya, literally hill garden, kumari cultivation.

Udave, in the Nuggur and Hasan division of Mysore, a jungly tract, fit for coffee planting; jungle allotted to a village for pasture, etc.

Ugala, SANSK., land always saturated with moisture.
 Uratiya, BENG., land unfit for cultivation.
 Urava matti, HIND., free loose mould.
 Utera, of Bengal, a supplementary crop grown amongst the principal crops; it is sown in rice after its transplanting.
 Valara, GUJ., land on which the weeds have been burned previous to sowing.
 Vasei or Vaseio, of Bombay, fallow; warkas, of Bombay, dry cultivation; the poorer grains, all except rice and pulse.
 Vilai, TAM., high ground not supplied with water.
 Vilai-nilam, fertile arable ground.
 Walras, GUJ., a spot of land in a jungle prepared for tillage by burning the bushes and brushwood, and leaving the ashes as manure.
 Warkas, MAHR., is a common term for all the grains except rice and the varieties of pulse, and Warkas-zamin is soil suited for their cultivation. Warkas-zamin, also land suited for the dry cultivation.
 Yorra-chakku, TEL., a red sort of soil, containing a small quantity of lime.
 Zamin, Jamin, land, earth. Gamati jamin, in Bombay, is waste land in a Bhagduri village that has been taken up and cultivated after the settlement was made.

—*Newbold; Bradley, Report on Circar Dowlatabad; Dr. Turnbull Christie in Madras Journal, Lit. and Science, October 1836; Cal. Review; Dr. D. B. Reid; Heyne's Tracts; Carnegie; Ward, quoting Colebrooke, iii. pp. 105, 115.*

SOJA HISPIDA. *Mench.*, *W. and A., Grah.*
S. Japonica, Savt. | *Dolichos soja, L., Roxb.*
Gari kulay, . . . BENG. | *Soy bean, . . . ENG.*
Hwang-ta-tau, . . . CHIN. | *Suhuca bean, . . . "*
Mau-tau, . . . " | *Bhut, . . . PANJ.*

This plant is one of the natural order Leguminosæ. It grows in the N.W. Himalaya, in Nepal, at Taong Dong, in China, Japan, and the Moluccas. It is found in the Suttelj valley between Rampur and Sungnam at an elevation of 6000 feet, and abundant in the Peninsula of India, though probably introduced there. The seeds resemble those of the haricot, French, or kidney bean, and are used by the Chinese to form a favourite dish, culled 'ten-hu' or 'tan-hu,' which looks like curd, and which, though insipid in itself, yet with proper seasoning is agreeable and wholesome. The Japanese call the seeds 'miso,' and put them into soup, of which they sometimes partake three times a day. They likewise prepare with them the sauce termed 'sooja,' which has been corrupted into 'soy.' Soy is only sparingly used as a sauce in Great Britain. It has the character of being a useful stomachic, but not more so than any of the other condiments when used with moderation. It is the well-known Chinese bean, which constitutes such a large article of trade between the northern and southern parts of China. Of all vegetable substances, it is richer in nitrogenous or flesh-forming matter than any yet discovered. There are two varieties, a white and a black, of which the composition in 100 parts is as follows:—

White Variety.		Black Variety.	
Moisture,	8.04	Moisture,	10.40
Nitrogenous matter, . . .	39.18	Nitrogenous matter, . . .	41.54
Starchy,	30.31	Starchy,	30.82
Fatty or oily matter, . . .	18.30	Fatty or oily matter, . . .	12.31
Mineral constituents, . . .	4.10	Mineral constituents, . . .	4.93

In China the ripe ovoid yellow beans are made into bean curd, which is largely consumed by the Chinese when vegetables are scarce; it is the cheese of that race; they are also pressed to extract bean oil or pea oil.—*Eng. Cyc.; Powell, Indian Museum; Smith.*

SOJNA or Dawut. HIND. The science of exorcism.

SOKA. HIND. A blight from want of water, when the sugar-cane dies.

SOKHA, among the Ho of Kolhan, a witch-finder.

SOK-PA, a colony of pure Mongols, who have located themselves on the frontier of China and Tibet. The words in Tibetan mean people of the pasture. On the same frontier, likewise, are the Gyami, Gyarung, Takpa, Manyak, Thochu, Sok-pa, and Horpa.

SOLA. BENG., HIND.

Æschynomene aspera, L. | *Hedysarum lagenarium, R.*
Æ. lagenaria, Lour. | *Sola, Phul sola, . . . HIND.*

A plant of Bengal, Sylhet, Assam, Saharunpur, Southern India, common in moist places in the rainy season. The lower part of the stem is rough and scabrous, as well as the legumes. The plants are remarkable for their light and spongy texture, and seem indeed to be composed almost entirely of pith. The thicker stemmed plants are collected in the dry months of April and May, and the light pith substance applied to making some kinds of toys, the floats of fishermen's nets, and cut into thin slices and pasted together, for making hats, which, being light and having broad brims, are well suited for protecting the head from the influence of the powerful Indian sun, especially if a handkerchief be put loosely into the crown of the hat. This substance has also been employed for lining drawers of natural history, and in its texture very much resembles the substance called rice-paper, which is the pith or stem of a malvaceous plant cut into thin slices. The larger plants are particularly light, white, and spongy.—*Roxb.; Voigt.; M. E. J. R.*

SOLANACEÆ. *Linall.* The nightshade tribe of plants. The following are grown in Southern and Eastern Asia:—

Lycium Chinense, Mitt., Cochin-China, Canton.
Capsicum annuum, L., Roxb., South America.
C. baccatum, L., Tropical America, Guinea, India.
C. chamaecerasus, Nees, Moluccas.
C. fastigiatum, Blum, South America.
C. frutescens, L., East Indies.
C. grossum, Willd., Nepal.
C. sinense, Jacq., China.
Solanum Æthiopicum, L., Ethiopia, China, Japan.
S. macrodon, Wall., Khasya mountains.
S. crassipetalum, Wall., Nepal.
S. denticulatum, Blum., Sylhet.
S. giganteum, Jacq., Neilgherries.
S. auriculatum, Ait., Madagascar, Bourbon, Mauritius.
S. decemdentatum, Roxb., Singapore, China.
S. ferox, L., South Konkan, Coromandel, Bengal, Penang, Singapore.
S. incertum, Dun., Bengal, Sylhet.
S. indicum, L., all British India.
S. Jacquinii, Willd., all British India.
S. macrocarpon, L., Peru.
S. molongense, L., Palestine.
S. nigrum, L., Europe.
S. nodiflorum, Jacq., Brazil, Guinea, Mauritius.
S. pentapetaloides, Roxb., Brazil.
S. pseudocapsicum, L., Madeira.
Lycopersicon cerasiforme, Dun., Peru.
L. esculentum, Mill., America.
L. Humboldtii, Dun., South America.
Physalis Peruviana, Linn
P. stramonifolia, Wall., Gossanthan.
P. tuberosum, L., W. coast of S. America
P. verbascifolium, L., all India.
P. rubrum, Mill., British India.
P. spirale, Roxb., Sylhet, Assam.
P. torvum, Steud., Bengal.
P. alkekengi, Linn., Europe, Persia.

P. angulata, *L.*, East and West Indies.
P. minima, *L.*, all East Indies, Archipelago, Nepal, New Holland.
P. Peruviana, *L.*, Peru, East Indies.
P. pubescens, *L.*, America, India.
P. somnifera, *Nees*, Coromandel, Konkana, Gujerat.
Nicandra physaloides, *Gertn.*, Peru, Chili, North America.
Datura alba, *Rumph.*, all India.
D. ferox, *L.*, Himalaya, Nepal, Cochinchina, China.
D. inermis, *Jacq.*, Abyssinia.
D. metel, *L.*, Canaries, Africa.
D. stramonium, *L.*, South America, Europe, North Africa, North Asia.
D. suaveolens, *Willde.*, Peru, Chili, Mexico.
D. tatula, *Lin.*, America.
Nicotiana Bonariensis, *Lehm.*, Buenos Ayres.
N. cerinthoides, *Hornem.*, —?
N. fruticosa, *L.*, —?
N. glutinosa, *L.*, Peru, South America.
N. paniculata, *L.*, Peru.
N. plumbaginifolia, *Viv.*, Rio Grande.
N. quadrivalvis, *Parsh.*, North America.
N. rustica, *L.*, Europe, Asia, Africa, America.
N. tabacum, *L.*, all the world.
Petunia nyctaginiflora, *Juss.*, South America.
Hysocyanus albus, *L.*, Europe, Tauria.
H. Canariensis, *Ker.*, Canaries.
H. muticus, *L.*, Arabia, Egypt.
H. niger, *Lin.*, Europe, Caucasus, North India.
Atropa belladonna, *Lin.*, N. Europe, Kanawar.
Mandragora officinarum.

Some of this family are deleterious, some have narcotic qualities. The tubers of such as produce them are amylaceous and nutritive. The leaves are generally narcotic, but lose that quality by boiling. The fruits which are red or yellow are acid and eatable, as the alkakengi, tomato, and capsicum; those which are black or purple are deleterious, as the mandrake, belladonna, thorn-apple, henbane, cestrum, etc. *Atropa belladonna*, *L.*, the suchi of the Sutej, is found wild in Kanawar at 8500 feet. It is stated to be burned in order to kill fleas.

A Chinese plant called Tso-na-ts'au, one of the Solanaceæ, with an appended account of a similar drug called Yah-puh-lu, from the country of the Hun or Uigur, is described in the Pen-Ts'au as a plant producing profound anæsthesia, during which operations may be performed with perfect freedom from pain. The effects are said to last for three days, and to resemble those from the *Atropa mandragora*.—*Stewart*; *Voigt*; *Smith*.

SOLANKI or Chalukya. The history of this branch of the four Agnicula Rajputs cannot be traced to such periods of antiquity as the Pramara or Chauhan. The tradition of the bard makes the Solanki important as princes of Suru on the Ganges, before the Rahtor obtained Kanauj. Their capital was to India what Venice was to Europe, the entrepot of the products of both the eastern and western hemispheres. It fully recovered the shock given by Mahmud and the desultory wars of his successors; and Sid Rae Jye Singh, the seventh from the founder, was at the head of the richest, if not the most warlike, kingdom of India. The lieutenants of Shahab-ud-Din disturbed the close of Komarpal's reign; and his successor, Ballo Muldeo, closed this dynasty in S. 1284 (A.D. 1228), when a new dynasty, called the Baghela (descendants of Sid Rae) under Beesildeo, succeeded. Though the stem of the Solanki was thus uprooted, many of its branches (Sachas) had fixed themselves in other soils. The most conspicuous of these is the Baghela family, which gave its name to an

entire division of Hindustan; and Baghelcuud has now been ruled for many centuries by the descendants of Sid Rae. Besides Bandugurh, there are minor chieftainships still in Gujerat of the Baghela tribe. Of these, Pitapur and Therad are the most conspicuous. One of the chieftains of the second class in Mowar is a Solanki, and traces his line immediately from Sid Rae; this is the chief of Rupnagurh, whose stronghold commands one of the passes leading to Marwar, and whose family annals would furnish a fine picture of the stats of border feuds. The Solanki is divided into sixteen branches. The name of the Baghela subdivision is from Bhag Rao, the son of Sid Rae, though the bards have another tradition for its origin. Tod (*Rajasthan*, pp. 80 and 97) styles the Anhalwara family Solanki and Chalukya.

SOLANUM, a genus of the natural order Solanaceæ. Upwards of 400 species of plants belonging to this genus have been enumerated, including many with apparently very opposite properties. The tomato, the egg-plant, and the potato, with the various species of poisonous nightshades, are found united so closely by botanical characters, that it is impossible generally to separate them. The properties of these plants, however, do not differ in kind but in degree; and the berries and leaves, and even the tubers when uncooked, of the potato, possess in a mild degree the narcotic properties of the poisonous nightshades. Many of them have also very handsome flowers. *S. Jacquini* is considered by the native practitioners of India as an expectorant. *S. Æthiopicum*, *Willde.*, is a native of Ethiopia, China, and Japan. Two varieties are recorded,—one, the *S. violaceum*, is a native of China, and the fruit is frequently eaten in that country as a dessert. It has a large spheroid oval berry of a red colour. The other variety is the *S. æsculentum*, having a prickly stem, and small yellow berries of the size of peas.—*Eng. Cyc.*; *Roeb.*; *Mason*; *Voigt*.

SOLANUM DULCAMARA.

Shuh-yang-ts'uen, CHIN. | Ruba-barik, . . . HIND.
 Ku-kin, "

This is a native of Europe, Asia, and North America, in hedges and amongst bushes. It is plentiful in Great Britain, and it or a variety of it is found on the Chur mountain, and in the Panjab Himalaya, at 7000 to 7500 feet. Its leaves, etc. (or those of *S. nigrum*), are officinal under the above name. It has purple flowers, and scarlet, oval, bitter, and juicy berries. These are acrid narcotics, and poisonous in moderately large quantities.—*Eng. Cyc.*; *Royle*; *O'Sh.*; *Stewart*.

SOLANUM FEROX. *Lin.*

<i>S. involueratum</i> , <i>Bl.</i>	|	<i>S. hirsutum</i> , <i>Roeb.</i>
<i>S. lasiocarpum</i> , <i>Dun.</i>	|	<i>S. mammosum</i> , <i>Lour.</i>
Ram began, BENG.	|	Ana chunda, MALE, TAM.
Vatarajakulo, CAN.	|	

A scarce shrub, but found on the coast line of Southern India, Bengal, Cochinchina, Penang, Singapore.—*Voigt*.

SOLANUM INCERTUM. *Dun.*

Ruba-barik, HIND. | Mannuttha-kalee, . . . TAM.
 Cultivated by the natives of India. The leaves are used as a pot-herb; the fruit and leaves in the preparation of chatnis. It contains a peculiar alkaloid, solanine, and acts as a diaphoretic, diuretic, and alterative, especially in skin diseases as lepra.—*Jaffrey's Hints*; *Powell*.

SOLANUM INDICUM.

SOLANUM INDICUM. *L.* Indian Nightshade.

<i>S. violaceum</i> , Jacq.	<i>S. canescens</i> , Bl., <i>Rheede</i> .
Byakur, Bakur, . . . BENG.	Mulli, TAM.
Hwang-kia, CHIN.	Kaka mochi, . . . TEL.
Koli, DUKH.	Tella mulaka, . . . "
Kandyaree, HIND.	Tella nela mulaka, . . "
Cheru-chunda, . . MALEAL.	

This grows all over India. The root is used in infusion as stimulant in cases of fevers and coughs; the juice of the leaves, boiled with the juice of fresh ginger, is administered to stop vomiting.—*Roxb.*

SOLANUM JACQUINI. *Willde.*

<i>Var. a. S. diffusum</i> , <i>Roxb.</i>	<i>S. virginianum</i> , <i>Jacq.</i>
<i>Var. β. S. xanthocarpum</i> , <i>Willde.</i>	
Chudra kanta kari, BENG.	Kundun-ghatri, . . . TAM.
Kanta kari,	Vakuda-kia, . . . TEL.
Dorle ka phal, . . . DUKH.	Pinna mulaka, . . . "
Kutayn, Kathila, . . HIND.	Tella nela mulaka, . . "
Kandan-gutri, . . . TAM.	

This is a low growing, prickly (medicinal) plant, the fruit used only by the poor. The whole plant is used in decoction as expectorant in coughs and consumptive complaints.—*Roxb.*

SOLANUM MELONGENA. *Linn.* Egg-plant.

<i>Var. S. ovigerum</i> , <i>Dun.</i>	<i>Var. S. longum</i> , <i>Roxb.</i>
" <i>S. pseudoundatum</i> , <i>Bl.</i>	" <i>S. insanum</i> , <i>Linn.</i>
" <i>S. esculentum</i> , <i>Dun.</i>	
Badangan, ARAB.	Nila valuthana, MALEAL.
Kooli begoon, . . . BENG.	Valoothala, . . . "
Wangee, BOMBAY.	Budanjan, PERS.
Kha-yan, BURM.	Hingolee, Vartta, SANSK.
Niu-nin-kia (white variety), . . . CHIN.	Bong, "
Kia (purple fruited), . . .	Bartakoo mahotec, . . .
Kia tze,	Wangau, SIND.
Brinjal, Mad-apple, ENG.	Warnbatoo, . . . SINGH.
Jew's apple,	Kuthirikai, . . . TAM.
Baingan, HIND.	Valuthalay vankai, . . .
Mala insana, LAT.	Vanga, Chiri vanga, TEL.
Troing, MALAY.	Metta vankai, . . . "
	Niru vanga, "

Several varieties of this are everywhere cultivated in the E. Indies, Persia, and Arabia. The fruits large, ovoid, firm, innocent, and insipid. It is one of the most useful of Indian vegetables, and is used in culinary purposes in various ways. The large Cape varieties are the best; require good soil and abundance of water. Flowers purple, and bears large, smooth, shining berries, which are the shape and size of a small hen's egg. *S. ovigerum* has the stem, calyx, and leaves without thorns; and in *S. esculentum*, these parts are more or less covered with thorns. Several sub-varieties of both these vary in the shape and colour of the fruit. The berries are white, yellow, red, purple, and black. The fruit of this plant, the oval-shaped white, the globular-shaped white, and the purple or violet coloured of both forms, are used in stews and soups. The natives of the Panjab regard this vegetable as hot and dry; it is said to prevent sleep and produce unpleasant dreams, owing to vitiated bile. Leaves are said to be narcotic.—*Roxb.; Eng. Cyc.; O'Sh.; Gen. Med. Top.; Jaffrey; Ridell; Powell.*

SOLANUM NIGRUM. *Linn.* Nightshade.

<i>Anub-us-anl</i> , ARAB.	Pilak, Kaknachi, . . HIND.
Tien-pau-tsau, . . CHIN.	Ruba tarbuca, . . . PERS.
Lung kwei,	Kaka machie, . . . SANSK.
Communie, DUKH.	Munnatakali pallam, TAM.
Mako, Mackoe, . . . HIND.	Canchie pandu, . . . TEL.

Solanum nigrum grows in waste places. Throughout Europe it is a weed in cultivated ground, and is found in Africa and Asia. It has white flowers, producing small berries of a black colour, and is

SOLANUM SODOMEUM.

employed as a narcotic by the hakims of India. The fruits are very dangerous, and act in the same manner as those of the belladonna and mandrake. It is considered by natives cool and moist, and is used in fever, diarrhoea, and ulcers, also in disorders of the eyesight, and in hydrophobia, both externally and internally. It contains a small amount of solanine in the juice of the stem and berries, but it may be eaten as food, as in France.—*O'Sh.; Ainslie; Eng. Cyc.; Powell; Voigt.*

SOLANUM PUBESCENS. *Willde., Roxb.*

<i>S. verbascifolium</i> , <i>L.</i>	
Urusa, BENG.	Sunday-kai, . . . TAM.
Shondek pulla, . . . DUKH.	Wustay-kia, . . . TEL.
Mallum-chunday, MALEAL.	Kasi ute,
Katubie, SANSK.	Rameswara ute, . . . "
Ohunday-kai, . . . TAM.	Rasa gadi manu, . . . "

This is about the size of a small marble, and grows wild in the woods. It is somewhat bitter, and, like the toodoo-vullay (its congener), is commonly eaten fried, having been previously sprinkled with a little salt and water.—*Ainslie; Useful Plants; Roxb.*

SOLANUM RUBRUM. *Mill.*

<i>Var. a. S. erythropyrenum</i> , <i>Roxb., W.</i>	
" <i>β. S. melanosperrum</i> , <i>Roxb., W.</i>	
Gorkhi, BENG.	Kachi; Erra and Nalla
Gaju chettu, . . . TEL.	kamanchi, . . . TEL.
Kamanchi chettu, . . .	

The gorkhi is the red-seeded variety; both have small white flowers. They grow throughout the E. Indies and E. Archipelago.—*Roxb.; Voigt.*

SOLANUM SANCTUM. *Linn.* Lot's lemon.

Leimun lut, ARAB.	Barl mauhari, . . . HIND.
Palestine egg-plant, ENG.	Mahori, Tingi, . . . "
Maraghune, HIND.	

Grows in Palestine, west of the Indus, and in the Salt Range. Supposed by Dr. Wilson to be the vine of Deuteronomy xxxii. 32. Stem shrubby, tomentose; leaves ovate-repand, oblique at the base, clothed with hoary tomentum on both surfaces. Berries nearly globose. In some places the fruit is eaten fresh and in pickle.—*Panjab Plants*, p. 160.

SOLANUM SODOMEUM. Linn. Sodom egg-plant, apple of Sodom, is a native of the north of Africa, the S. of Europe, N. Holland, and Brazil. Fruit white, and about the size of a walnut. It is very subject to the attacks of an insect, which deposits its eggs within the germen, and, as the fruit enlarges, the larvæ of the insect destroy and pulverize the whole of the interior, whilst the rind is left unchanged and entire. When the fruit is gathered under these circumstances, it is crushed to pieces by the hand; or if conveyed to the lips, the mouth becomes filled with an ash-like powder, exceedingly bitter to the taste. To these berries remarkable properties have been assigned by Jocephus, Tacitus, and others. Mandeville, an old English writer, says, speaking of the Dead Sea, 'And there besyden grown trees that barren fulle faire apples and faire of colour to beholden, butte whoseoe breaketh them or cutteth them in two, he shall find within them coles and cyndres.' Milton alludes to this fruit in the lines:

'Greedily they pluck'd
The fruitage fair to sight, like that which grew
Near that bituminous lake where Sodom flamed.
This more delusive, not to touch but taste
Deceived; they, fondly thinking to allay
Their appetite with gust, instead of fruit
Chew'd bitter ash.'

SOLANUM TORVUM.

It seems to be quoted in Deuteronomy xxxii. 32, 33, and in Isaiah, who says of the future Israelites, their vine is from the vine of Sodom, and from the fields of Gomorrah.—*Harris' N. H. of Bible*, p. 187; *Voigt*; *Hogg*.

SOLANUM TORVUM. Swz.

Goto-begoon, . . . BENG. | Wusta-kaia, . . . TEL.
Sunday-kai, . . . TAM.

A weed used as a vegetable by the natives. It has several synonyms.—*Voigt*.

SOLANUM TRILOBATUM. L., Roxb., W. Ic.

S. acetosæfolium, Lam.

Achudah? Alarkah, SANSK. | Uchinta kura, . . . TEL.
Tuda valle, . . . TAM. | Tella uste, Uchehinta, ,,
Mulla muste-uste, . . . TEL.

Root-leaves and tendrils shoots used medicinally. The fruit, Toovullay kai, TAM., Moondlamoste-kaia, TEL., is round and small, being not much larger than a marrow fat pea. It has a somewhat bitter taste, not unlike that of its congener the choonday kai, and is commonly eaten fried, having been previously sprinkled with a little salt and water.—*Roxburgh*; *Ainslie*; *Useful Plants*; *Voigt*.

SOLANUM TUBEROSUM. Linn. Potato.

Alu, . . . DUKH., HIND. | Rata-inula, . . . SINCH.
Ubi, Kantang, . . . MALAY. | Alu gaddalu, . . . TEL.

The potato is found native in the greatest abundance on the western coast of South America. Like most plants which are much cultivated, an abundance of varieties have been produced from the original plant; and in the leaves, colour of the flowers, shape, size, and colour of the tubers, it has a great tendency to depart from its normal character. The potato is a useful esculent, contains a large amount of starch, and when dried it is used as a substitute for salep. It is cultivated throughout British India as a cold-weather crop, in Burma, and in the Himalaya up to 9000 feet, where it is cooked and eaten with buckwheat. Two other species, namely, *S. Valenzuela* and *S. monnatum*, produce edible tubers, but they are little used. The most formidable potato disease of the 19th century, from the *Peronospora infestans*, seems to have originated from guano. From potatoes is made British gum, an altered condition of potato starch, used for postage-stamps; starch, or English arrow-root, etc.—*Roxburgh* ii, p. 216; *English Cyclop.*; *Mason*; *Powell*; *Panjab Plants*; *Voigt*.

SOLANUM VERBASCIFOLIUM. Linn.

S. pubescens, Roxb.

Oh, . . . BEAS, RAVI. | Mullum chande, . . . TAM.
Urus, . . . BENG. | Rusa gadda manu, . . . TEL.
Tauri, . . . CHENAB. | Karawune, . . . TR.-INDUS.
Kela mewa, . . . HIND.

This is a native of Asia, America, and the tropical parts of Australia. Grows in the Siwalik tract up to 4000 feet, and west of the Indus. It is frequently cultivated. Every part is covered with a powdery white tomentum. The flowers are white, and the berries are of the size of small cherries, and used in curries.—*Roxb.*; *Useful Plants*; *Panjab Plants*; *Hogg*; *Voigt*.

SOLANUM VIRIDE. Br.

S. anthropophagorum, Seeman.

One of the plants of the Fiji Islands and New Zealand, the tubers of which were used when eating human beings.

SOLAR RACE.

SOLANUM XANTHOCARPUM. Willde.

Var. S. Jacquini, Willde.

Kandari, . . . BEAS. | Kharian maragheone,
Mamoli, Pilak, . . . " | HIND.
Unt-katara, . . . HIND. | Chhoti mauhari, . . . RAVI.
Chat-khatat, . . . " | Mahori, . . . " |
Warumba, . . . " | Harnauli, . . . SUTLEJ.

Grows common throughout the Panjab plains, and occasionally to 5000 feet in the outer hills. The seeds are eaten, they are applied for bruises and earache, and the fruit, Katela, Bat-kateya, HIND., is bruised and applied for pain. Considered an expectorant useful in coughs, asthma, and consumption.—*Roxb.*; *Powell*; *Panjab Plants*.

SOLAR RACE. In the northern part of British India, there were, in times long prior to the Christian era, two dynasties who strove for mastery, viz. the Solar dynasty, descended from Rama, which entered India B.C. 2300; and the Lunar dynasty, descended from Yadu, which entered India about B.C. 1300. The Solar dynasties at present remaining in India are three, viz. :—

Grahilote or Gehlote or Geholote, with 24 sacs or branches, of which the Sisodia is the most distinguished. The raja of Udaipur or Mewar is a Grahilote, descended from Loh, Rama's eldest son. Rahtor, said to be descended from Rama by Kusa, his second son. It has 24 branches, and the maharaja of Jodhpur or Marwar belongs to this tribe. Kachwaha also sprang from Kusa. The raja of Jeypore is of this tribe. It has 12 kotri or houses.

The Lunar dynasty is sprung from the moon, through Yadu or Jadu, and is called Yadu or Jadu. It has eight branches, of which the Jhareja and Bhatti in Cutch and Jeysulmir are the most powerful.

The Agnicula, a third race, have four tribes and eighty-seven branches, viz. :—

Pamara with 35 branches. | Chalukya with 16 branches.
Parihara, " 12, " | Chauhan, " 24, "

The following list names the thirty-six royal races of Rajasthan :—

Ishwaku, Cacoostha, or Soorya.	20. Jaitwa or Camari. Gohil.
Unwye, Indu, Som, or Chandra.	Sarweya.
Grahilote sacs, . . . 24	Silar.
Yadu, 4	Dabi.
5. Tuar, 17	Gor.
Rahtore, 13	25. Doda or Dor.
Cushwaha or Cutchwaha.	Gethwal.
Pamara, 35	Birgojjar, 3
Chahaman or Chauhan, 26	Sengar, single.
10. Chalook or Solanki, 16	30. Byee, " Dahi.
Parihara, 12	Johya.
Chawwa, single.	Mohil.
Tak, Tark, or Takshak.	Nicompa.
Jet or Gete.	Rajpal.
15. Hun or Hoon.	36. Dahima, single.
Catti.	Extra,
Balla.	Hool,
Jhala.	Dahirya.

In the thirty-six royal tribes, there are some, the origin of which is not known, such as—

Chauru or Chauwara.	Sarwaya or Sari-napa.	Sengar.
Tak or Takshak.	Jetwa.	Sikharwal.
Jit or Jat of Panjab.	Kamari.	Bais.
Junna & Ganges.	Dabi.	Dahia.
Hun.	Gor.	Johya.
Katti.	Doda.	Mohil.
Batta.	Garhwal.	Nikumba.
Jhalamakwahana.	Chundela.	Rajpati.
Gohil.	Bundela.	Dahirya.
	Bir-gujjar.	Dahima.

Rama had two sons, Loh and Cush; from the former the family of the rana of Mewar claim descent. He is stated to have built Lahore, the ancient Loh-kote; and the branch from which the princes of Mewar are descended, resided there until Keneksen emigrated to Dwarica. The difficulty of tracing these races through a long period of years is greatly increased by the custom of changing the appellation of the tribe, from conquest, locality, or personal celebrity. Sen, an army, seems to have been the martial termination for many generations; this was followed by Dit, or Aditya, a term for the sun. The first change in the name of the tribe was on their expulsion from Saurashtra, when, for the generic term of *Suryavansi*, was substituted the particular appellation of *Gehlote*. This title was maintained till another event dispersed the family; and when they settled in Ahar, Aharya became the appellative of the branch. This continued till loss of territory and new acquisitions once more transferred the dynasty to Sisodia, a temporary capital in the western mountains. The title of *Ranawut*, borne by all descendants of the blood-royal since the eventful change which removed the seat of government from Chitore to Udaipur, might in time have superseded that of *Sisodia*, if continued warfare had not checked the increase of population; but the *Gehlote* branch of the *Suryavansa* still retain the name of *Sisodia*.

Most of the cula or races are divided into numerous branches or *saca*, and these *saca* are subdivided into immediate clans or *gotra*. A few of the cula never ramied; these are termed *eka* or single, and nearly one-third are *eka*. *Ikshwaku* was the first king in the Solar line, and, according to Hindu mythology, reigned at the commencement of the *Tretu-yug*. He was the son of the 7th Menu or patriarch, the offspring of the sun. His posterity was called, in consequence, the dynasty of the Solar princes, in the same manner as *Budha* was reputed the head of the Lunar line. Modern commentators bring the time of his accession down to the year B.C. 1920. A passage in the *Agni Purana* indicates that the line of *Surya*, of which *Ikshwaku* was the head, was the first colony which entered India from Central Asia. But the patriarch *Budha* was his contemporary, he being stated to have come from a distant region, and to have married *Ella*, the sister (or daughter) of *Ikshwaku*. Amongst the *Aryan Hindus*, the *Kshatriya* was a warrior branch taking social rank after the Hindu Brahmins. Menu, writing of their duties, says, to defend the people, to give alms, to sacrifice, to read the Vedas, to shun the allurements of sexual gratification, are in a few words the duties of a *Kshatriya*. How this soldier branch broke up is extremely obscure, but it is generally supposed that none of the races now in India can trace their lineage to that tribe of *Aryans*, though most of the Rajput families doubtless belong to them. Their quarrels amongst themselves seem to have led to their own destruction. These martial *Kshatriya* do not appear to have adopted Brahmanism readily, and the Brahmins to overcome them, consecrated by fire, on Mount Abu, a warrior body who still remain, and are known as the four *Agnicula* Rajput tribes.

Vyasa gives but fifty-seven princes of the Solar line, from *Vaivaswata Menu* to *Rama*; and no list

which had come under Colonel Tod's observation exhibits for the same period more than fifty-eight of the Lunar race.

Ikshwaku was the first who moved to the eastward and founded *Ayodhya*.

Budha (Mercury) founded the Lunar line, but we are not told who established their first capital, *Poorag*, though we are authorized to infer that it was founded by *Pooru*, the sixth in descent from *Budha*.

A succession of fifty-seven princes occupied *Ayodhya* from *Ikshwaku* to *Rama*.

From *Yayati's* sons the Lunar races descend in unequal lengths.

The lines from *Yadu*, concluding with *Krishna* and his cousin *Kansa*, exhibit fifty-seven and fifty-nine descents from *Yayati*, while *Yudishtra*, *Sul*, *Jarasandha*, and *Vahoorita*, all contemporaries of *Krishna* and *Kansa*, are fifty-one, forty-six, and forty-seven generations respectively, from the common ancestor *Yayati*. The author, after the invocation to the mother protectress, *Om! sacombhari mata!* says, 'I write the name of the thirty-six royal tribes.' The bard *Chund* says, 'Of the thirty-six races, the four *Agnicula* are the greatest: the rest are born of woman, but these from fire.'

Rama of the *Ramayana* is described as the son of *Ikshwaku* and grandson of *Menu*. His original abode is described as the mountains of the west. He was the first of the dynasties of *Oudh*. And the Solar dynasty held sway in *Ayodhya*, the modern *Oudh*, till the result of the great war, the *Mahabharata*, when they were forced to give way by their cousins of the Lunar line.

The Rajput race was at an early period divided into the two great Solar and Lunar dynasties, the former having its seat of empire in *Oudh*, and the latter in *Dehli*. Struggles for the pre-eminence were carried on with sanguinary obstinacy between these tribes. To fight, was the duty of the *Kshatriya*, as *Krishna* told the hero *Arjuna*, smitten with sorrow at the idea of slaughtering his own kinsmen in battle. 'O *Krishna*,' said the hero, 'I seek not victory nor a kingdom. I will not fight! What shall we do with a kingdom, or with life itself, when we have slain all these?' *Krishna* had no such qualms. 'You belong,' he replied, 'to the military class, and your duty is to fight.' And *Arjuna* fought.

The dynasties which succeeded the great beacons of the Solar and Lunar races, are three in number, —1st. the *Suryavansa*, descendants of *Rama*; 2d. the *Induvansa*, descendants of *Pandu* through *Yudishtra*; 3d. the *Induvansa*, descendants of *Jarasandha*, monarch of *Rajgraha*. The *Bhagavat* and *Agni Puranas* are the authorities for the lines from *Rama* and *Jarasandha*; while that of *Pandu* is from the *Raj-Taringini* and *Rajaoli*. The existing Rajput tribes of the Solar race claim descent from *Lava* and *Cush*, the two elder sons of *Rama*; and Colonel *Tod* does not believe that any existing tribes trace their ancestry to his other children, or to his brothers. From the eldest son *Lava*, the rana rulers of *Mewar* claim descent; so do the *Bir-gujar* tribe, formerly powerful within the confines of the present *Amber*, whose representative now dwells at *Anupshahr* on the *Ganges*. From *Cush* descended the *Cushwaha* princes of *Nirwar* and *Amber*, and their numerous clans. *Amber*, though the

first in power, is but a scion of Nirwar, transplanted about the 9th century, whose chief, the representative of the celebrated prince Nala, enjoys but a small district of all his ancient possessions. The house of Marwar also claims descent from this stem, which appears to originate in an error of the genealogists confounding the race of Cush with the Causika of Kanouj and Canambi. Nor do the Solar genealogists admit this assumed pedigree. The Amber prince in his genealogies traces the descent of the Mewar family from Rama to Sumitra through Lava, the eldest brother, and not through Cush, as in some copies of the Puranas, and in that whence Sir William Jones had his lists. Whatever dignity attaches to the pedigree claimed by the Amber prince, every prince and every Hindu of learning admits the claims of the princes of Mewar as heir to the chair of Rama; and a degree of reverence has consequently attached, not only to his person, but to the seat of his power. When Madhaji Sindia was called by the rana to reduce a traitorous noble in Chitore, such was the reverence which actuated that (in other respects) little scrupulous chieftain, that he could not be prevailed on to point his cannon on the walls within which consent established the throne of Rama. The rana himself, then a youth, had to begin the attack, and fired a cannon against his own ancient abode. In the very early periods, the princes of the Solar line, like the Egyptians and Romans, combined the offices of the priesthood with kingly power, and this whether Brahmanical or Buddhist. Many of the royal line, before and subsequent to Rama, passed great part of their lives as ascetics; and in ancient sculpture and drawings, the head is as often adorned with the braided lock of the ascetic, as with the diadem of royalty. Ferishta, also, translating from ancient authorities, says to the same effect, that 'in the reign of Mahraj, king of Kanouj, a Brahman came from Persia, who introduced magic, idolatry, and the worship of the stars;' so that there is no want of authority for the introduction of new tenets of faith. Even now the rana of Mewar mingles spiritual duties with those of royalty, and when he attends the temple of the tutelary deity of his race, he performs himself all the offices of the high-priest for the day. In this point a strong resemblance exists to many of the races of antiquity. There seems to be no doubt that amongst the Aryans, whilst they were approaching India, and whilst the worship of nature under the Vedic system of religion prevailed, the householder was his own priest, and performed all the religious duties in sacrifices and worship. The head of the house was, in fact, his own household priest, and to the present day every head of a Hindu house performs all the religious sacrifices of his household. — *Wilson's Glossary*; *Tod's Rajasthan*, i. p. 215.

SOLE. The Plagusia of Tenasserim is a small fish of the sole family, that grows to nine inches or a foot long. It has no pectoral fins, and the dorsal, caudal, and ventral fins are united. The natives think that two of them always swim together, with their flat, uncoloured sides united. — *Mason*.

SOLEGNATHUS BLOCKII. *Blocker*. The sea-needle of Block, a long, spindle-shaped fish, with round, needle-shaped body.

SOLENOCARPUS INDICA. *W. J.* This

tree, when in blossom, is a perfect mass of white flowers. It grows on the Annamallays (2600 feet elevation), also on the Tinnevely ghats. When in leaf only, it much resembles the *Spondias mangifera*. — *Beddome, Fl. Sylr.*

SOLENOSTEMMA ARGELI, Arghel of Egypt, a native of Syria. The leaves are purgative, and are employed in Egypt to adulterate senna. — *Hogg*, p. 5; *Simmonds*.

SOLFATARA, the Hwang-kung of the Chinese. There are three of these in the north end of Formosa. There are also solfataras in the Japanese island of Kiu-siu, and at the south end of Satsuma is the burning sulphur island of Ivoo-sinn. See Sulphur.

SOLOMON, properly Sulaiman or Suliman, the son of David, was king over the Judah and Benjamin tribes of the Hebrews or Israelites. He is famed in history for building the temple of Jerusalem, for his great wisdom and great wealth. He began to build the temple B.C. 1014. He founded Hamath, in the country of Galilee, and fortified Tadmor or Palmyra in the wilderness, and many other cities of store (1 Kings ix. 18; 2 Chronicles viii. 4), or emporia, for the commerce of India, and Tyre, Sidon, and all the surrounding nations. His father had introduced the custom of a vast polygamy, which Solomon continued. His commercial transactions extended down the Red Sea and the Euphrates valley, to India and the Aures Chersonesus.

A port of departure and arrival was Ezion-geber (1 Kings ix. 26) on the banks of the Euphrates, the Hasn Jabir of the Arabs, also called Kalat Jabir or Castle Jabir, of which the vast ruins still exist not far from the ancient Roman town of Beles. Catfago says the translation ought to be, 'And king Solomon made a navy of ships in Ezion-geber, besides that of Elath.' The modern Arab name of Tadmor or Palmyra is Sulaymaniyah. Solomon is fabled to have been king not only of men, but of the angels, genii, elements, beasts, and birds, and they have many traditions as to the queen of Sheba. Solomon's pools are three large reservoirs built on the slope of a hill about 7 miles S. from Jerusalem. Solomon's temple in Jerusalem was dedicated to Baal, and all the idolaters of that day seem to have held to the grosser tenets of modern Hinduism—

'Poor his other name, when he enticed
Israel in Sittin, on their march from Nile.'

Solomon's temple, of Kashmir, stands on the summit of a hill to the east of Srinuggur city. Its height is 6263 feet above the level of the sea. — *Arrian, Periphus*, p. 152; *Pennant's Hindustan*, i. p. 4; *Tod's Rajasthan*, i. p. 76; *Paradise Lost*, Book I.

SOLOMON ISLANDS, discovered by Dampier, 1699, form an extensive chain which stretches to the N.W. from the E. point of San Christoval Island, in lat. 10½° S. and long. 162° 27' E., to the N. point of Banks Island, in lat. 5° S. and long. 154° 38' E. They are part of the extensive chain which, commencing to the N. of New Hebrides, extends in a N.W. direction towards New Ireland, and thence along the N. side of New Guinea. San Christoval or Arsacides is the most south-easterly. The people are cannibals. They murdered Lieutenant Bower and his crew, and massacred the native assistants of Mr. Brown,

the missionary, but Mr. Walter Powell lived amongst them.

SOLOR is an island lying to the east of Flores, and to the north of Timor, under which presidency of Netherland India it is placed. The inhabitants of the coast are Muhammadans in name, but they are hard arrack drinkers. They are hardy mariners and fishers. The village which most applies itself to the whale fishery is Lamakera, on the north-east part of the island of Solor, and lying within the Strait. They are remarkable for their skill in managing their prahu and canoes, and are the most expert fishermen in these seas, frequently capturing the black-fish, which no other fishermen in these seas will venture to attack. The blubber or fat obtained from them is used as food, and also as an article of barter with the inland inhabitants; and the oil and spermaceti is sometimes disposed off to the Bughi and Macassar traders, who prefer it to coconut oil for burning in their prahus.—*Journ. Ind. Arch.*, December 1850.

SOLPUGA ARANEOIDES and *S. intrepida* are two species of Phalange of the Kirghiz steppe, of a yellowish or reddish-brown colour, with long hair. The bite is said to cause death. When walking, it seems as large as two fists. They live in the sand.

SOLTYKOFF, PRINCE, a Russian noble who travelled in India in 1841, and wrote *Voyage dans l'Inde*.

SOMA was an ancient Aryan rite, a sacrifice to Indra (Zeus) of an intoxicating potion, consisting of fermented juice of plants mixed with milk. Soma juice and its effects are repeatedly mentioned in the Vedas (i. pp. 21, 139, ii. pp. 169, 233, 260, iii. p. 470). The Soma sacrifice now-a-days is not made with any spirituous fluid, but in Vedic times it seems to have been a distilled alcoholic fluid, and was offered to their deities,—

'The gods themselves with pleasure feel
King Soma's influence o'er them steal;
And Indra once, as bards have told,
Thus sang in merry mood of old:—
This Soma is a god; he cures
The sharpest ills that man endures:
He heals the sick, the sad he cheers,
He nerves the weak, dispels their fears,
The faint with martial ardour fires,
With lofty thoughts the bard inspires,
The soul from earth to heaven he lifts,
So great and wondrous are his gifts:
Men feel the god within their veins,
And cry in loud exulting strains,—
"We've quaffed the Soma bright,
And are immortal grown;
We've entered into light,
And all the gods have known.
What mortal now can harm,
Or foe-man vex us more?
Through thee beyond alarm,
Immortal god, we soar."

The Rig Veda, ix. says, 'The purifying Soma, like the sea rolling its waves, has poured forth songs, and hymns, and thoughts.' Thus personified, the Soma god bears a certain analogy to the Greek Dionysus or Bacchus. The two verses above are a nearly literal translation of Rig Veda, viii. 48, 3. The Soma plant of the Vedas is the *Sarcostemma viminale*, a leafless aclepiad, with white flowers in terminal umbels, which appear during the rains in the Dekhan.

It was gathered by moonlight, hence its name, from Soma, SANSK., the moon, and carried to their homes on carts drawn by rams, and a fermented liquor was prepared by mixing its juice, strained through a sieve of goat's hair, with barley and clarified butter or ghi. This beer or wine was used at all their religious festivals, and was used by the rishis at their meals.

Indra, according to Bunsen (iii. p. 587, 8, iv. p. 459), is the prototype of Zeus, and was a personification of ether. The Soma juice is the oblation or libation of the Vedic worship, and the Homa of the Parsees; and Prof. H. H. Wilson (Introduction to the Rig Veda, p. 36) says, 'Almost the whole of the Soma Veda is devoted to its eulogy, and this is no doubt little more than a repetition of the Soma Mandala of the Rig Veda.' The veneration of the Soma plant does not appear to have proceeded from any worship of the moon or planets, which are not, like the sun, objects of special adoration in the Veda. The Soma is mentioned in Menu, iii. pp. 85, 158, 180, 197, 257, v. p. 96, vii. p. 7, ix. p. 129, x. p. 88, xi. pp. 7, 12. All the ancestors of the Brahmans are styled Soma-pa, 'moon-plant drinkers'; and the Soma sacrificial priests, the Soma Yaji and Soma Devi.

Haug says the Homa was a nasty drink. Win-dischmann suggests that the Soma plant may be identical with the gogard tree, which enlightened the eyes, and Ampelus, the vine of Bacchus, is also mentioned.—*Bunsen's Egypt; Rig Veda; Williams' Nala*, p. 247.

SOMA, in Hindu mythology, is the son of the Rishi Atri by his wife Anasuya, but also said to be son of Dharma and Prabhakara. He married 27 daughters of Daksha (which are the 27 lunar asterisms). He carried off Tara, wife of Brihaspati (Jupiter), who bore a son, and named him Budha, the parent of the Lunar race. Soma, also Chandra, the moon, is chiefly celebrated in the Vedas in connection with the Soma plant, but in the Mahabharata is the mythical progenitor of the great Lunar race of Bharata. These heavenly bodies entered into the elemental worship of the Vedic times.—*Dowson*.

SOMA DEVA BHATTA, of Kashmir, collected the popular stories current in his time, and published them towards the beginning of the 12th century, under the title of Katha-sarit-sagara, the Ocean of the Rivers of Stories.

SOMAJH. From the religious scepticism which is the most remarkable result of western education in British India, has sprung several sects among the more thoughtful and earnest of the Hindus. The Brahmo society resembles in its organization of preachers, members, and hearers, the various sects of Christians. They eschew idolatry in every form, build chapels on the model of a Christian church, and, except that the Bible is seldom referred to, and Christ is only treated as a great and good man, would seem to be an Indian form of theism. They have fixed, paid ministers, lay itinerant agents, who receive no salary for their labour of love, and have adopted the missionary agency of the European churches, and send out trained missionaries for the propagation of theism. The census of 1881 showed their numbers in British India to be 1147, energetic, well-informed, and respected of their countrymen, amongst them men of social position and wealth.

SOMAL or Beer-us-Somal, the country of the Somali, to the south of Cape Guardafui, between the equator and lat. 11° N.; on the west is separated from the Galla nations by the Jub, a large and fertilizing stream which rises in the mountains of Southern Abyssinia, and debouches in the Indian Ocean. Capt. Speke states that the Somali are the descendants of a band of Muhammadans who were driven from Mecca in A.D. 1413, and crossed over to their present site, from which the Galla and Abyssinians were subsequently dispossessed. The Somali in their own land are pastoral nomades, but have settled villages on the coast line, with a patriarchal government. When the mother perishes in child-birth, the parents claim a certain sum from the man that killed their daughter. Twins, here called Wapacha, and by the Arabs of Zanzibar Shukul, are usually sold or exposed in the jungle, as amongst the Ibos of West Africa. A mother, when carrying her offspring, bears in her hand a kirangozi, a guide or guardian, in the form of two sticks a few inches in length, bound with bands of parti-coloured beads. This article, made by the Mganga or medicine-man, is placed at night under the child's head, and is carried about till it has passed the first stage of life. They trade at Berbera and other places on their coast, or sail to Aden during the N.E. monsoon, bringing gum, myrrh, ostrich feathers, ivory, etc. They are a good-tempered, though indolent race, but easily excited to anger. In Aden they are inveterate thieves and gamblers. They are handsome, active, and long-limbed, with woolly hair, capable of undergoing great privation and fatigue. In 1827, a British vessel trading at Berbera was plundered by the Habr Owul tribe of Somali. Berbera is a port to the east of Zaila and Tajowra, and nearly opposite to Aden. In consequence of unhealthy winds, it is deserted for six months every year. During the rest of the year it is visited by caravans of different tribes from the interior of Africa. A vessel of war was sent to punish the tribe for the outrage which they had committed. On 6th February 1827, a treaty of peace and commerce was signed by the elders of the tribe. An expedition was sent in 1854 to explore the country between Berbera and Zanzibar, but on the 18th April 1855 the party were suddenly attacked by Somali of the El Moosa tribe; two British officers were wounded, one was killed, and the entire property of the expedition was carried off. The murderers were not delivered up, but a treaty was entered into. In 1855, the elders of the Habr Gerhagi and the Habr Taljala tribes of Somali entered into an engagement with the Political Resident at Aden to prohibit the slave trade. — *Aitcheson's Treaties*, vii. p. 319.

SOMENDILLA. TAM., MALEAL. The Berrya ammonilla tree, yielding the most useful wood in Ceylon for naval purposes. It is commonly called Halmille and Hamenlei by the Dutch and Portuguese. It grows straight, from 20 to 40 feet high, and from 12 to 30 inches in diameter. Superior to any wood for capstan bars, cross and trussel-trees, cask-staves, battens for yards, fishes for masts, boat-building, etc. At Madras it is highly valued for coach-work, from the toughness and fineness of its grain. It is the Trincomalee wood of commerce. — *Edye, Ceylon*.

SOMESWARA or Somnath, lord of the moon,

a title of Siva; also applied to Surya, the sun-god. — *Tod's Tr.* p. 508.

SOMNATH or Somanath is an ancient town situated in lat. 27° 7' N., and long. 71° 34' E., at the eastern extremity of a bay on the south coast of the peninsula of Kattyawar, in the Bombay Presidency. The western headland of the same bay is occupied by the port of Virawal, which gives to the locality its more common name of Virawal Pattan, also known as Deo Pattan, Pattan Somanath, Somnath Pattan, Prabhas Pattan. On the west, the plain is covered with Muhammadan tombs; on the east are numerous Hindu shrines and monuments.

The country near Somnath is full of memorials of Krishna, and at a spot to the east of the city, near the union of three beautiful streams, the body of the hero is said to have been burned. Before its capture by Mahmud of Ghazni, A.D. 1024-1026, little is known of the history of Somnath.

The country of Soreth, a province of the peninsula of Gujerat, now more generally known under the name of Kattyawar, is celebrated in the Puranas for containing five inestimable blessings. First, the river Gumti; second, beautiful women; third, good horses; fourth, Somnath; and fifth, Dwarka. Among the many places in Soreth that are held sacred by the Hindus, Somnath Pattan has always been one of the most remarkable. It stands one or two miles from the sea, at the junction of three rivers, the Hurna, Kupula, and Sersutty, at a distance of three miles to the east of the port of Belawul. Somanatha or Someswara is a name of the type of Siva, and the worship of Siva under this type prevailed throughout India at least as early as the 5th or 6th century. The Somanath idol, in fact, was one of the twelve great lingams then set up in various parts of India, several of which were destroyed by the early Muhammadan conquerors; and it has been mentioned that Somnath temple was the counterpart of Baalbek; and the idol is related to have been brought to India from the Kala, on the advent of Mahomed. Brahmanical records, however, refer it to the time of Krishna. Somanath is the title of Swayam-nath, or self-existing, and the religion was, of old, common to Arabia and India; and there is reason for believing, what the early Muhammadan authorities assert, viz. that the Lat, worshipped by the idolaters of Mecca, was a similar deity to the Swayam-nath of the Hindus. The idol itself, Somnath, is stated to be one of the twelve symbols of Siva, which are said by Hindus to have descended from heaven to the earth. The temple of the idol was supported by 56 pillars in rows, the idol was of polished stone, about five cubits high, of proportionate thickness, and two cubits were below ground. General Cunningham says the Pattan Somnath temple of Siva enshrined a figure of the god, bearing a crescent on his head, as Somnath, or the lord of the moon. This appellation was therefore the proper name of the temple, and not of the city, which he concludes must have been Elapura or Erawal, the modern Virawal.

The image was, according to Muhammadan authors, destroyed by Mahmud; but in late years, Ahalia Bhai, the widow of a prince of the Mahratta family of Holkar, erected a new temple on the exact site of that which was demolished. A symbol of Siva Mahadeo has been placed in this temple,

which is deemed peculiarly propitious to those who desire offspring. Not far from this, the Hindu pilgrim is shown a solitary pipal tree, on the bank of the Saraswati river, which he is assured stands on the exact spot where the Sri Krishen received the mortal wound from an arrow, that terminated his incarnation.

About a century after their expulsion from Balabhi, about A.D. 758, Bappa or Vappaka founded a new kingdom at Chitore, and his son Guhila or Guhaditya gave to his tribe the new name of Guhilawator Gahilot, by which they are still known. About the same time a chief of the Chaura tribe, named Ban raja, or the jungle lord, founded a city on the bank of the Saraswati, about 70 miles to the south-west of Mount Abu, called Anhalwara Pattan, which soon became the most famous place in Western India. Somewhat earlier, or about A.D. 720, Krishna, the Pahlava prince of the Peninsula, built the fort of Elapura, the beauty of which, according to the inscription, astonished the immortals. In it he established an image of Siva adorned with the crescent. Following this clue, General Cunningham inclines to identify Elapura with the famous city of Somnath, which, as the capital of the Peninsula, was usually called Pattan Somnath. General Cunningham takes it to be the same as Elapura or Elawar, which, by a transposition that is very common in India, would become Erawal. Thus Nar-sinh has become Ran-si, and Ranod is used indifferently with Narod, and the ancient Varul is the modern Elur or Ellora.

There is nothing in the Vedas, Puranas, and other Brahmanical books to illustrate the origin and history of the Somnath temple. The earliest notice is contained in the brief account of the successful campaign of Mahmud of Ghazni. According to Ferishta, the fortified city of Somnath was situated on a narrow peninsula, washed on three sides by the sea. It was the residence of the raja, and Naharwala (a transposition of Anhalwara) was then only a frontier city of Gujerat. This agrees with the native histories, which place the close of the Saura or Chaura dynasty of Anhalwara in S. 998, or A.D. 941, when the sovereignty passed into the hands of the Chalukya prince, Mula raja, who became the paramount ruler of Somnath and Anhalwara. When the Somnath temple was plundered by Mahmud of Ghazni in A.D. 1024, Byram Deo (Brahma Deva) of Gujerat was deposed. Mahmud left Ghazni, on his expedition against Somnath, in September A.D. 1024; his numerous army was accompanied by crowds of volunteers, the flower of the south of Turkestan. Ajmir and Anhalwara fell before him. Advancing against Somnath, for two days his most devoted followers were beaten headlong back by the valour of the Rajputs fighting for hearth and altar. On the third day, Mahmud led a furious charge in person, 5000 Hindus lay dead, and the day was won. When he entered the shrine of Someswara, he beheld a superb edifice of hewn stone, its lofty roof supported by pillars curiously carved and set with precious stones. In the adytum, to which no external light penetrated, and which was illuminated only by a lamp suspended from the centre by a golden chain, appeared the symbol of Someswara, a stone cylinder which rose 9 feet in height above the floor of the temple, and penetrated 6 feet below it. Two fragments of this object of idolatrous

worship were, at the king's order, taken off, that one might be thrown at the threshold of the public mosque, and the other at the court gate of his own palace of Ghazni. Other fragments were reserved to grace the holy cities of Mecca and Medina. The tradition says that while Mahmud was thus employed, a crowd of Brahmans offered an enormous ransom if the king would desist from further mutilation. Mahmud hesitated, but, after a moment's pause, he exclaimed that he would be known by posterity not as the idol-seller, but as the destroyer. The work of destruction then continued, and was rewarded by the discovery in the vaults below the adytum of untold treasures. Thus fell Somnath. But this traditional story is quite unworthy of credence; the linga is never hollow. Its gates were taken to the mosque of Ghazni, from which they were removed when the British troops returned from the occupation of that country in 1842.

After the time of Mahmud, Somnath would appear to have been abandoned by its rulers in favour of Anhalwara, which is mentioned as the capital of Gujerat in the time of Muhammad Ghori and his successor Aibek. It was still the capital of the kingdom in A.H. 697, or A.D. 1297, when the country was invaded by the army of Ala-ud-Din, Muhammad Khilji, which occupied Anhalwara, and annexed the province to the empire of Delhi.—*Postan's Western India; Bird's Hist. of Gujerat; Cunningham's Geog. of India; Prinsep; History of Persia; Wilson; Town. Outram and Havelock; Imp. Gaz.*

SOMNATHPUR, a village in Mysore State, celebrated for its temple of Prasanna Chenna Kesava. An inscription at the entrance shows that it was completed in 1270 by a prince of the Ballala dynasty. The whole is most elaborately ornamented, and the structure is completed by three simānas or pyramidal towers surmounting the triple shrine. Round the exterior base are portrayed the leading incidents in the Ramayana, Mahabharata, and Bhagavata, carved in relief in potstone, the termination of each chapter and section being indicated respectively by a closed and half-closed door. The number of separate sculptured images is 74. The workmanship is attributed to Jackanachari, the famous sculptor and architect of the Ballala kings, under whom Hindu art in Mysore reached its culminating point. There is also at Somnathpur a large temple to Siva in ruins.—*Imp. Gaz.*

SON. To have a son, a male child, is the great desire of the married Hindu; and if a son be not born, he may adopt one. The Sanskrit word meaning a son is said to mean deliverer from hell, since the son delivers his father from hell (Menu, ix. p. 138). This accounts for the extreme desire entertained by the Hindus for male offspring. Thus Bhima, like Dasaratha in the Ramayana, and many others, performed the holiest acts for the sake of obtaining a son. The son alone by the offering of the funeral libation (Sradha) is supposed to procure rest for the departed spirit of the father. The Hindu law recognised 12 kinds of sons. A son may be born of a wife or adopted. The Dattaka putra, or adopted son, properly renounces all claim to direct inheritance from his natural father and paternal relations, except through any affinity he may have acquired through his adopted father.—*Williams' Nala*, p. 178.

SON or Sugun, in Sind, is a kind of divination by means of the position of birds and beasts, their cry, the direction of their flight, and other such particulars.

SONAI. HIND. Water in which the jute plants have been steeped.

SONAR, HIND., from Sona, gold, a worker in gold and silver. One of the five artisan castes of the Hindus, the other four being the blacksmith, coppersmith, stone-mason, and carpenter. The Sonar, or goldsmith, is a caste or hereditary avocation. He is not a jeweller, but an artisan, and works entirely by weight, charging from one anna to one rupee per rupee of the out-turned manufactured article, the rate varying according to his skill or the art required, the standard of intrinsic value being that of payment. The Sonar usually has the gold or silver with which he is to work delivered to him, and he must return in the ornament the same quality and quantity he received. He cannot work with much alloy, which is the best security against fraud, and his best work is with the purest gold and silver, and in these the metal is treated with quicksilver again and again, until it has become soft and perfectly ductile. The Kanari 'Panchala' and the Kokanasth 'Sonar' claim to be Brahmans. They wear the sacred cord, and have the Vedas read to them by their own priests. The Sonar of the south of India all claim to be of higher birth than the Brahmans. In Benares they claim to derive their origin from the Kshatriyas.

SONARGAON, in the Dacca district, the ancient Muhammadan capital of Eastern Bengal, but now an insignificant village called Painam, situated about two miles from the Brahmaputra, in lat. 23° 39' 45" N., and long. 90° 38' 20" E. It was here that Azim Shah, the son of Sikandar, proclaimed his independence, and invited the poet Hafiz to his court. The town gave its name to one of the three great sarkars or provinces.—*Imp. Gaz.*

SONARI, a little village situated on a low spur of a sandstone hill between the Betwa and Besali rivers, 6 miles to the S.W. of Sanchi, 21 miles N.E. of Bhopal. It contains numerous Buddhist topes. See Bhilsa.

SONCHUS CILIATUS. Lam. Sow thistle.

Sonchus oleraceus, Roxb., *Wight Icones*.

Dodak, . . . HIND. | Etrinta, . . . TEL.
Ka't mulingi kiri, . . . TAM. | Adavi mullangi, . . . "

A native of Europe, up to 8500 feet, of the Panjab, also of Peninsular India. It yields a milky juice on incision. Cattle are fond of it. Used in the Neilgherries as a pot-herb by the natives. Also the Kashmir people are said to use it as a vegetable; and it is probably the dwarf sow thistle, the shoots of which the Ladakhii use in a similar way, according to Moorcroft, though this may be the Tragopogon.

Sonchus Orixensis.

Bhangra, . . . HIND. | Dughdika, . . . HIND.
Kali bhangra, . . . " | Sabadevi, . . . "

Bari (H.) Jangli-tamaku. Similar to *Lactuca* in its properties.—*Powell; Jaffrey; Stewart, M.D.*

SONDIA. The principal among the illegitimate Rajputs in Central India, of mixed caste, are the Sondia, who have spread from Sondwarra in Malwa (a country to which they give the name) to many adjoining districts. This tribe is divided into many families, which take their name from Rajput ancestors; but all intermarry. Second

marriages among their women are very common, and from the strict usages of the Rajputs upon this point, there is none on which they deem the Sondia to have so degraded the race from which they are descended. The Sondia have been either cultivators or plunderers, according to the strength or weakness of the government over them; but they have always had a predatory tendency, and have cherished its habits even when obliged to subsist by agriculture. Their dress is nearly the same as that of the other inhabitants, though they imitate in some degree the Rajputs in the shape of their turbands. They are, in general, robust and active, but rude and ignorant to a degree. No race can be more despised and dreaded than the Sondia are by the other inhabitants of the country. A considerable number occupy the districts of Dig Puch-pabar and Gungrar or Chowmela. They are Hindus, but abstaining from the flesh of kine is their only feature. They drink, use opium, and are of vicious habits; their women are bold and immoral; widows remarry. During the rebellion of 1857-58, they gave considerable trouble. Another tribe, the Bhilalah, who have sprung from Rajputs of the Bhil tribe, derive their name from associating with the Bhils, among whom, from the superior rank of their sires, they obtain respect and consequence. The chiefs of the Bhils in the Vindhya mountains are almost all Bhilalah. This class combine with the pride and pretensions of the Rajputs the cunning and roguery of the Bhils; and appear to be, almost without exception, a debauched and ignorant race, often courageous from constant exposure to danger, but invariably marked by an equal want of honour and of shame. The Bhilalah and Sondia chiefs were the only robbers in Malwa, whom under no circumstances travellers could trust. There are oaths of a sacred but obscure kind among those that are Rajputs, or who boast their blood, which are almost a disgrace to take, but which, it is asserted, the basest was never known to break, before Mundroop Singh, a Bhilalah, and some of his associates, plunderers on the Nerbadda, showed the example.—*Malcolm's Central India*, ii. pp. 15, 153.

SONDRI BREKI or Sondi Breri, an ebbing and flowing spring near the Berengi river in Kashmir. It appears about the vernal equinox. It seems to be an underground continuation of the Berengi river.

SONE. The fishermen settled along the coast from Gheriah to the north, near Surat, and at Colaba, in Bombay, are Koli of the Sone tribe; a few of them are mariners, but the vessels must be manned by natives, the Sone fearing to lose caste, which would take place did they sail with Europeans. The chief Patel of this tribe resides at Angria; he is looked on as a legislator, being endowed with power to adjust the affairs of the Sone Koli, settle their disputes, etc. The women of the Sone Koli wear choli or jackets, and have a number of glass bangles on their left hand; they are frequently seen in Bombay assisting their husbands in fishing and carrying fish to market. When they marry, the ornaments which were intended to adorn their right wrists are consecrated, and thrown into the sea as an offering to the deity who presides over that element, and an invocation to defend her husband from the dangers of the ocean. Not a caste meeting of the Sone

Koli can take place without large potatoes of mahwa flower arrack being imbibed; and they frequently give any quantity of fish for half a tumbler of raw brandy. The chief tribes of Koli are the Raj, Solesy, Tonkry, the Dhour, Dugry, the Bhil, Mullar, the Ahir, Murvy, and the Sone Koli, with a few others. In Bombay, Tannah, Bhewndi, Kallian, Bassain, Daman, etc., are a number of Christian Koli, said to have been of the Sone section, and to have been forcibly converted by the Portuguese, but, terrified by the cholera in 1820-21, a portion reverted to paganism.

SONE, a tributary to the Ganges. It rises on the Amarkantak table-land, in lat. $22^{\circ} 41' N.$, and long. $82^{\circ} 7' E.$, 3500 feet above the sea. Length, 465 miles; receives the Koel, 140; Kunher, 130; Johila, 100 miles. Including the Phalgu and other rivers falling into the Ganges above Rajmahal, 42,000 square miles drained. The navigation of the river is not considered available. It is the chief tributary of the Ganges on its right bank. The Amarkantak table-land also supplies the sources of the Nerbadda and the Mahanadi, and is included in a tract of wild country transferred to the state of Rewah. In the rainy season native boats of large tonnage occasionally proceed for a short distance up stream; but navigation is even then rendered dangerous by the extraordinary violence of the stream, and during the rest of the year becomes impossible, owing to the small depth of water. There is one characteristic common to the Baghel of Rewah, the Bundela of Bundelkhand, and the Rajput of Gwalior and Malwa, a dislike to labour or service away from their homes; they generally leave tilling of the soil to the servile classes, and are regarded as the heads of the local society. Many of the Rajputs in the states of Central India give themselves up to sloth and the immoderate use of opium. In Malwa, Bhopal, Ujjain, Mundipur, Rutlam, Dhar, Jowra, Augur, Nemuch, Shoojawulpur, and Bhilsa are the principal marts. It is the Hyranibhya of the ancient Magadha and Prachi, and the Erranaboas of Strabo, Arrian, and Pliny. Palibothra was situated, as stated by Megasthenes, at the junction of the Ganges and Erranaboas, and it is believed to be the modern Patna, the same as the Pataliputra of the Chinese pilgrim Hiwen Thsang.—*Tr. of Hind.* i. p. 225.

SONG.

Sir, HEB. | Sur, Gata, . . . SANSK.
Geet, HIND.

Out of the 64 sciences of the Hindus, five, Nos. 22 to 26, belong to music, viz. the modulation of sounds, art of playing on stringed instruments, of playing on wind instruments, of beating the tambourine, and of beating the cymbals. The musical notation extensively used by Curwen resembles the Hindu system. Sir William Jones' Essay on the Musical Notes of the Hindus was published in the third volume of the Asiatic Researches, p. 55, and J. D. Patterson on the Gramal, or Musical Scales of the Hindus, *ibid.* ix. p. 445; and the chief points established in these essays are thus given in the fourth volume of Lassen's *Indische Alterthumskunde*, §§ 832, 833. The native musical literature is tolerably copious, and the Indians are acquainted with four systems, whose founders, as usual with them, are mythical personages. The first system is ascribed to Devarshi Narada, who in the epic poetry appears as well skilled in

stories, and goes about between the gods and men, to recite tales to them. From him Iswara or Siva received this system. The author of the second system is Bharata, the mythic inventor of the dramatic art; the author of the third is the divine ape Hanuman; and that of the fourth Kapila, the founder of the Sankhya philosophy. These assertions, of course, only mean that the Hindus attached a high value to the practice of music, and this view is confirmed by the circumstance that in the epic mythology the Gandharvas appear as musicians in Indra's heaven. For the antiquity of song amongst the Hindus, it is important to observe that the Udgatar, i.e. the priest who sings the saman, belongs to the Vedic period. As to later times, we may refer to the fact that, in the *Mrich' chakatika*, Rebhila is praised as a renowned singer. The Hindus are acquainted with the European scale of seven tones, and denote them by letters (sa, ri, ga, ma, pa, dha, ni). They admit, moreover, six raga or modes, and the musical treatises contain minute directions as to the employment of them in the six seasons into which the year is divided. The Hindus have also mythologized these ideas, and regard the six raga as god-like beings, whose consorts are called Ragini, and are eight in number. These couples produce 48 sons, called Ragaputra, by whom the various mixtures of the chief modes are denoted. This view furnishes a very striking example of the boundlessness of Hindu imagination, as it is impossible really to distinguish so many modes from one another. In some MSS. are found portraits of these two and 60 male and female genii. The people of India generally take no advantage of the wonderful power, range, flexibility, and sweetness of the musical sounds producible by the human larynx, especially in the female sex. Singing amongst the Muhammadans of India is never indulged in by any but professional men and public women; no woman of the Muhammadans sings even to her infant child. Individuals of some Hindu sects, particularly the Jain, are occasionally heard singing, but it is confined to the Hindu women of the temples of their deities, and to the singing bands of the Muhammadan women and Burmese. With the uncultivated aboriginal races, the efforts at singing is a mere howling.

SONG BIRDS. The European visitor to the E. Indies is much struck with the prevailing silence of the jungle, and the paucity of small birds even in the cold season, so different from the woods and gardens and hedgerows of Britain, teeming with small feathered inhabitants, among which are so many pleasing songsters of all degrees and merit. The chief families amongst whom the faculty of song is found are Merulidæ, Saxicolinæ, Sylviadæ, larks, some finches, a few shrikes and fly-catchers, and some starlings.

SONG-FAI, a money of account of Siam; the half of a fuang, and worth about 1½d.—*Simmonds*.

SONMEANEE, in lat. $24^{\circ} 27' N.$, and long. $66^{\circ} 39' E.$, a small fishing village, as its name Meanee implies. It is in Baluchistan, on a low shore at the mouth of the Poorali river. It is supposed to be the site of the place named by Nearchus the Port of Alexander. In the early part of the 19th century it contained about 250 huts. It is completely defenceless, and, on the side towards Bela, is overlooked by hillocks of sand. The bar at the

mouth of the river has only two fathoms on it at low water, but boats lie close to the village in six and seven. In the early part of the 19th century the inhabitants generally subsisted by fishing, and, with the exception of a few Hindus, were wretchedly poor.—*Pottinger's Travels*, p. 11; *Findlay*.

SONNERAT, a French naturalist and good draughtsman, who settled at Pondicherry, and made immense botanical collections, which seem to have been transmitted to France. These have not been described in any regular form, but such specimens as were presented to Lamareck were introduced into his *Encyclopedie Methodique*, a work from which much information is obtainable, although its alphabetical arrangement renders it very difficult of consultation, particularly in those genera which have been much subdivided of late years. Sonnerat wrote *Voyage à la Nouvelle Guinée*, and *Voyages aux Indes Orientales et à la Chine*, and he made known many new plants.

SONNERATIA ACIDA. *Willde., Linn.*

<i>Rhizophora caseolaris</i> , <i>Linn.</i>	<i>Mangium caseolare</i> , <i>Rump.</i>
<i>Orchaka</i> , BENG.	<i>Blatti</i> , <i>MALEAL</i> , of Rheede.
<i>Pohi</i> , <i>Plye</i> , of BORNEO.	<i>Tewar</i> , SIND.
<i>Tu bu</i> , <i>Ta mu</i> , BURM.	<i>Gedde killala-gass</i> , <i>SINGH.</i>
<i>La-moo</i> , "	<i>Paga-pate</i> of SONNERAT.

This tree grows 40 feet high. It grows near the tidal creeks and littoral forests of the region from the Indus to New Guinea, and has an acid eatable fruit. In British Burma it abounds in the mangrove swamps and on the banks of almost every stream on the coast as far as tide-waters reach. The natives use it for various economical purposes. It is said to be a better substitute for coal in steamers than any other kind of wood. In Ceylon it grows to a large handsome tree along the marshy banks of the large rivers. Spindle-shaped excrescences, called Kirilimow in Singhalese, rise from the surface of its roots, four or five feet above the surface of the ground. They are of a firm and close texture, nearly devoid of fibrous structure, and take a moderate polish, some of the transverse cuttings being two feet long and two to three inches wide. The finest pin passes in with ease, and the thin slices are invaluable for linings of insect boxes. The roots of *S. acida*, *S. alba*, and *S. Griffithii* spread far and wide through the soft mud of the marshy banks on which they grow, and at various distances send up, like the *avicennia*, extraordinarily long spindle-shaped excrescences.—*Roxb.*; *Hooker*; *W. and A.*; *Voigt*; *Mason*; *Thw.*

SONNERATIA ALBA. *Sm.* A tree of the Andamans. *S. Griffithii*, *Kurz*, the *Tapyu* of the Burmese, grows in Burma.

SONNERATIA APETALA. *Buch.*

<i>Khoura</i> , <i>Keora</i> , BENG.	<i>Thaum-nia</i> , BURM.
<i>Kam-ba-la</i> , BURM.	<i>Myouk-guo</i> , "
<i>Kan-pa-la</i> , "	

A pretty large and elegant tree, which grows in the western side of India, in the delta of the Ganges, and under the parallel of Rangoon. It flowers in the hot season. It yields a strong, hard wood of coarse grain. It is the timber of a red colour of which boxes for packing beer and wine are made in Calcutta; is strong, and adapted for house-building. It grows in the low wet lands near the mouths of some of the Tenasserim rivers, bears a strong resemblance to the weeping willow, and is one of the most graceful trees in the country. The *casuarina* has been removed from

the coast to compounds in India, and the *sonneratia* is quite as deserving.—*Roxb.*; *Voigt*; *M'Cl.*; *W. and A.*; *Mason*.

SON OF HEAVEN, a title of the emperor of China.

SONO KLING, of the Malaya, a tree of Java; the colour of its wood is a deep brown, inclining to black; used for furniture. Sono kombang of Java, used for furniture, which has some resemblance to the lingon wood of the Moluccas.

SONPAT, a town in lat. 28° 59' 30" N., and long. 77° 3' 30" E., 25 miles N.W. of Delhi city. Population (1868), 12,176. It is of great antiquity, and is said to have been founded by the earliest Aryan settlers. Popular tradition identifies it with one of the five 'pat' demanded by Yudishtra, in the Mahabharata, from Duryodhana as the price of peace, and it has derived its name from Raja Soni, the son of Bhopat, who reigned B.C. 920. A little image was here turned up in December 1864 when sinking a well. It is of clay, baked and polished like chunar pottery. The figure is sitting cross-legged with a club in each hand. Below the left knee is a very short inscription in a very old Nagari character. General Cunningham has read this inscription, and supposes the idol to be an aditya or image of the sun. The age of it he thinks to be at least 1200 years. This agrees with the period of the seventh century, when the Hindu Puranic theology had assumed a hundred heads and forms to contend with Buddhism. There were then followers of Brahma, Indra, Ganesha, Surya, Chandra, and a host of gods, all of whom succumbed to the powerful Saivites and Vaishnavites. The only trace of the worship of Surya found in the 19th century, in Northern India, is in Benares, where, in the corner of the quadrangle of the temple of Anna Purna, is a small shrine dedicated to the sun. The idol representing that luminary, however, is seated in a chariot drawn by seven horses, with a glory round his head, a representation of the old Sol of Homer.—*Tr. of Hind.* ii. p. 384.

SONPUR was formerly a chiefship subordinate to Patna, but was constituted a separate state by Raja Madhukar Sa of Sumbulpur about the year A.D. 1560. Since then it has been counted among the cluster of 18 Garhjat states. It is now attached to the Sumbulpur district, and is situated between lat. 20° 41' and 21° 10' N., and long. 83° 20' and 84° 18' E. It is bounded on the north by Sumbulpur proper and a portion of Rairakhol, on the south and south-east by Bod, on the east by Rairakhol, and on the west by Patna. The non-agricultural castes are Brahman, Mahanti, Rajput; and the agricultural castes are Tassa, Kolta, Agharia, and Gond.

SONTA or Asa. HIND. A club carried by Muhammadan devotees. Sonta-bardar, a mace-bearer.

SONTHAL, Mundah, Bhumij, and Ho speak languages nearly identical. They occupy most of the British districts of Chutia Nagpur, Singbhum, Manbhum, and the hilly part of Bhagulpur, now known as the Sonthal Parganas; also parts of West Bardwan, Midnapur, and Cuttack,—an extensive country west of Calcutta. The Sonthal are a simple, industrious people, honest and truthful, and free from caste prejudices. Their country is healthy, their numbers are increasing, and they are much prized as labourers by the Bengal indigo

planters, in the Assam tea plantations, and on the railways and other works of Western Bengal. The tribes live apart in detached houses or isolated hamlets. The Sonthal are a branch of the Mundah Kol. They seem to have separated from the Mundah, and fell back on Chutia Nagpur from the Damuda river, which the Sonthal call their sea, and they preserve the ashes of their dead until an opportunity occurs of throwing them into that stream or burying them on its banks. The Sonthal are now most numerous in the Sonthal Parganas, but there are many in Mohurbhunji, and there are several colonies of them in the Singbhum district. In 1881, the total in British India was 210,661. They are an erratic race, but Lieutenant-Colonel Dalton thinks that they left their chief settlements on the Damuda river from having been pressed by the Kurmi. The Sonthal, Bhumij, and Mundah tribes have long been known to be intimately connected, and they have affinities with the wild clan of the Korewah of Sirguja and Jushpur, with the Kheriah tribe of Chutia Nagpur, and the Juanga of the Cuttack Tributary Mahals. Since the beginning of the 19th century they have intruded themselves into some of the Rajmahal districts, which therefore now contain two populations, allied to each other, but speaking languages said to be mutually unintelligible. The close relationship of the Kur and Sonthal, and their separation from the Dravidian, may be illustrated by a few examples :—

English.	Kurli.	Sonthal or Kol.	Gond dialects.	Tamil.
Dog.	Situ, Chita.	Suta.	Nel.	Nay.
Ear.	Lutur.	Lutar.	Kavi.	Kathu.
Hair.	Op, Up.	Up.	Meir.	Mayer.
Nose.	Mu.	Mu.	Muku.	Mukku.
Belly.	Lal.	Lar.	Per.	Walru.
Fire.	Singal.	Sengel.	Narpu.	Nerappu.
Water.	Da.	Da.	Tanni.	Tannir.
House.	Ura.	Ora.	Vidu.	Vidu.
Star.	Epil.	Ipil.	Sukum.	Tarakai?
Man.	Koro.	...	Manwal.	Manidan.
Two.	Barku.	Bara.	Rand.	Erandu.
Three.	Apkor.	Apia.	Mund.	Mundru.

The Sonthal and Bhumij races have suffered in esteem in consequence of the human sacrifices offered at the shrine of Kali as Runkini, but these races personally do not much care for this goddess, at whose shrine the establishment and ritual are essentially Brahmanical. The Sonthal and Rajmahali are markedly different in habits, appearance, manners, and national characteristics, and on the Chutia Nagpur plateau these differences are very marked. The Sonthal are a very ugly race, with flat, broad-nosed features. They are a more simple, mild, industrious race than the Rajmahali, Gond, or Khond. Though the Sonthal are geographically near the plains, they seem to be more shy and more socially isolated than the Mundah, Bhumij, and Ho. They have kept much to themselves, preferring locations surrounded by jungle and segregated from the world, and cultivating the lower lands of their country, but they have latterly taken to labour for hire.

SOOBI, a religious sect in Turkish Arabia. At a village not far from the junction of the Tigris and Euphrates, forming the Shat-ul-Arab, in 1872, lived the Sabæan chief priest. He had ancient books which he asserted to be inspired, and a ritual which he refused to divulge. His followers, numbering 500 or 600, are scattered about over the province, and call themselves Soobi, but are

popularly styled 'Christians of St. John,' or 'Baptists.'

SOOMURUN or Gujta. HIND. Bracelets made of coloured thread, worn at the Maharram, and of flowers worn on other occasions.

SOONDA, a district in the south of the Bombay Presidency, bordering on North Canara. It contained large forests, but by A.D. 1850 the timber had greatly decreased in amount. In the transfer of Canara to Bombay, this district was re-transferred along with it.—*Gibson's Bombay Forest Repr.*, 1849.

SOPHAGESENU, the name given to Asoka by the Greeks. Evidence exists that Antiochus the Great was slain by an Indo-Scythian prince, called by the Greek writers Sophagesenus. See Kābul.

SOPHIST of India, a term applied to the Brahmans by Arrian (lib. vi. chap. xvi.) and Strabo. The religious ascetics are spoken of as Brachmanes, Germanes or Sarmanes (Sramana), and Sophists. Onesicritus was sent by Alexander to converse with a body of ascetics, in consequence of their refusing to come to him (Strabo, lib. xv.). He found fifteen persons two miles from the city, naked, and exposed to a burning sun; some sitting, some standing, and some lying, but all remained immovable from morning till evening in the attitudes they had adopted. He found Calanus lying on stones, and to him he first addressed himself. Calanus received him with an affectation of independence, and told him, if he wished to converse, to throw off his clothes and sit down naked on the stones. But Mandanis, the oldest of the party, reproved Calanus, and offered to instruct in the Indian philosophy as far as the means of intercommunication admitted. Alexander failed to prevail on Mandanis to accompany him; Calanus, however, did so, but, falling sick in Persia, and refusing to observe the regimen prescribed to him, he determined to burn himself alive. Alexander in vain opposed this intention, and he was carried to the pile, with a garland on his head, singing hymns. When he had ascended the heap, he ordered it to be set on fire, and met his fate with a serenity which made a great impression on the Greeks. A similar instance of self-immolation is related by Strabo (lib. xv.) of Zarmanochegus, an Indian of Bargoza, who had accompanied an embassy from his own country to Augustus, and burned himself alive at Athens.—*Elphin.* p. 238.

SOPHORA, a genus of plants belonging to the natural order Leguminosæ, said to be so named from an Arabic name (Sophora) of one of the species. Some species are ornamental shrubs and trees, found in Central and Tropical Asia, also in the warm parts of North America and the equinoctial and sub-tropical parts of South America. The species best known in England are *S. Japonica* and *S. Chinensis*. It has been proposed to engraft the Nepal *S. velutina* on the *Japonica*. Being handsome trees, with both leaves and trees differing much from European trees, they are well adapted for standing singly in lawns. They are raised from layers, but also from seeds, and require a little protection when young. Wight gives *Sophora glauca*, heptaphylla, and robusta. *S. glauca*, *Lesch.*, the smooth-leaved Sophora, is a Neilgherry plant, with middle-sized white flowers, tinged with rose colour. *S. tetraptera*, one of the few leguminous trees of New Zealand, is

variable in habit. *S. mollis*, the Arghawan of the Afghans, is a handsome, yellow-flowered shrub of the Panjab and N.W. Himalaya. — *R. Brown*; *Hogg*; *W. Ic.*; *Voigt*; *Gamble*.

SOPHORA JAPONICA. *Linn.* Hwi-shu, CHIN. This is an ornamental tree common in Japan and Central and Northern China, and about Peking. Its leaves could be substituted for senna. The pods are used in China in preparing a yellow dye; the greenish-yellow, unopened flower-buds are used in dyeing cloth of a yellow colour, or in rendering blue cloth green. The wood was formerly used in China for making fire-frictors. An extract is made from the leaves to adulterate prepared opium. — *Smith*; *Von Mueller*.

SOPHORA TOMENTOSA. *Linn.*

S. occidentalis, *Linn.* | Downy-leaved Sophora.

A shrub (Hwang-ki, CHIN.), native of Southern Asia, with pretty yellow flowers. In China all parts of this plant are used in medicine as a tonic, pectoral, and diuretic. — *Smith*.

SOPHYTES, or Sophites, or Sopeithes, an ancient king of the Western Panjab, including the Salt Range of mountains.

SORAB, a village in the Shimoga district of Mysore, in lat. 14° 22' 45" N., and long. 75° 7' 55" E., on the right bank of the Dandavati river, 46 miles north-west of Shimoga town, where boxea, caskets, and cabinets are made by the Gudigar, and which they cover with minute and complicated reliefs. The native designs consist of vegetation and scroll-work, interspersed with figures from the Hindu Pantheon; but any European pattern can be copied to order. The workmanship is considered finer than that of Bombay or Canton, and commands a high price. — *Imp. Gaz.*

SORANI, a ferocious tribe, who call themselves Yezedi, after a khalif of Damascus of that name. They inhabit the mountains of Sindjar, a country to the north-west of Bilbos. They are the greatest robbers of all the Kurdish tribes. — *Porter's Tr. ii.*

SORECIDÆ, the family of shrews, comprising the genera *Sorex*, *Soriculus*, *Crossopus*, and *Corsira*.

Sorex cærulescens, *Shaw*, *Blyth*.

Sorex indicus.

S. Sonnerati, *Geoff.*

S. giganteus.

S. myosurus, *Gray*.

Sondeli, CAN. Musk-shrew, ENG.

Musk-rat, ENG. Chachundi, HIND.

All India.

Sorex murinus, *Linn.*, *Blyth*.

S. Swinhøi, *Blyth*.

S. myosurus, *Pallas*.

S. viridescens, *Blyth*.

Moose-coloured shrew.

Sorex nemorivagus, *Hodgson*.

S. murinus, *Horsf.*

Nepal wood shrew, . . ENG.

Nepal, Sikkim.

Sorex Griffithii, *Horsf.*, Khasya Hills.

Sorex serpentarius, *Is. Geoff.*

S. kandianus, *Kelaart*. | Rufescent shrew.

Ceylon, S. India, Burma, Tenasserim.

Sorex heterodon, *Blyth*, Khasya Hills.

Sorex saturator, *Hodg.*, Darjiling.

Sorex Tytleri, *Blyth*, the Delhra shrew.

Sorex soccatus, *Blyth*, *Hodgson*, hairy-footed shrew, Nepal, Sikkim, Mussoori.

Sorex niger, *Ell.*, *Horsf.*, Neilgherry wood shrew, Neilgherry Hills.

Sorex leucops, *Hodg.*, long-tailed shrew, Nepal.

Sorex Hodgsonii, *Blyth*, Nepal pigmy shrew, Nepal.

Sorex Perroteti, *Duvernoy*, Neilgherry pigmy shrew, Mysore, Neilgherries, Dekhan.

Sorex micronyx, *Blyth*, small-clawed pigmy shrew of Western Himalaya.

Sorex melanodon, *Blyth*, black-toothed pigmy shrew of Calcutta.

Sorex Sikkimensis, *Hodg.*; *S. homourus*, *Hodg.*; *S. oligurus*, *Hodg.*; *S. macrurus*, *Hodg.*; *S. holosericeus*, *Hodg.*; and *S. tenuicaudus*, *Hodg.*, all of Darjiling.

Sorex ferrugineus, *Kel.*; *S. montanus*, *Kel.*; *S. Kelaarti*, *Kel.*; *S. purpurascens*, *Temp.*; *S. Horsfieldii*, *Tomes*, all of Ceylon.

Sorex fuliginosus, *Blyth*, and *S. nudipes*, *Blyth*, Tenasserim.

Sorex atratus, *Blyth*, Khasya.

Sorex albinus, *Blyth*, China.

Sorex pulchellus, *Licht.*, Central Asia.

Soriculus nigrescens, *Jerd.*

Corsira, *Gray*, *Blyth*.

S. soccatus, *Hodg.*

S. nterrimus, *Blyth*.

S. Sikkimensis, *Horsf.*

Ting-Zhing, BHOT. Tang-Zhing, LEPOH.

Moose-tailed shrew of Sikkim, Nepal.

Crossopus himalaicus, *Gray*.

Ochoopital, BHOT. Oong-laguiyu, LEPOH.

The Himalayan water-shrew of Sikkim.

Corsira alpina, *Jerdon*.

Sorex caudatus, *Hodg.*, Bl. | Alpine shrew, ENO.

Europe, Sikkim.

Corsira Newera-elia, *Kel.*, of Ceylon.

Feroculus macropus, *Kel.*

Sorex macropus, *Blyth*.

Ceylon.

Snakes are said to avoid the neighbourhood of the shrew. In Jeypore the body of a small musk-rat is regarded as a powerful talisman. It is dried, is enclosed in a case of brass, silver, or gold, according to the means of the individual, and is slung around the neck, or tied to the arm, to render the individual proof against all evil, not excepting sword and other cut, musket shot, etc. — *Lubbock, Origin of Civil*, p. 167; *Jerdon*; *Blyth*; *Hodgson*.

SORGHUM BICOLOR. *Willde.*

Holcus bicolor, *Linn.* | *Andropogon bicolor*, *Roeb.*

Cultivated in India (Kalo-deb-dhan, BENG.); grain much used as food. — *Voigt*.

SORGHUM CERNUUM. *Willde.*

S. halepense, *Pers.*

Andropogon cernuus, *Roeb.*

Holcus cernuus, *Willde.*

A. latus, *Roeb.*

Koonkie, E. BENG. Soondia of BROACH.

Cultivated by the natives of Munipore and other mountainous districts immediately east of Bengal. It is one of the Guinea corns, and reaches a height of 15 feet, with leaves 3 feet long. The grain is white, and forms an article of food of the races N. of Bengal. — *Von Mueller*.

SORGHUM SACCHARATUM. *Pers.*

Andropogon saccharatus,

Holcus saccharatus, *Linn.*

Rozb.

Broom corn? of America?

A. caffrorum, *Kunth.*?

Deo-dhan, BENG.

Sorgho-sucre, FR.

Luh-suh, Tih-che, CHIN.

Joar-valaiti, HIND.

Shaloo, DUKEH.

Salu, MAHE.

Sorgho, Sargo, ENG.

Devata dhanyamu, TEL.

Chinese northern sugar-cane, "

Jonna, "

This is a plant of Northern China. About the year 1855 it was introduced into the south of France and England, and since then into the United States. It was introduced into the Madras Presidency by the Editor in the year 1859. Dr.

SORGHUM VULGARE.

Birdwood, however, says it is simply the Shaloo of the Dekhan and the Deo-dhan of Bengal. But Roxburgh (i. p. 271) doubts if his *A. saccharatus* or Deo-dhan is the *H. saccharatia* of Linnæus, and describes it as having oval seed, and Voigt calls it *Sada deo-dhan*, white; whilst the plant which the Editor introduced in 1859 has a black grain different from that of the Imphee and the Sorgho, which the Editor also introduced from the Cape of Good Hope, all of which were yellowish-white. In China, the black seeds are sown in April, but the plant is largely propagated by cuttings. It grows to the height of 12 to 18 feet, with an ample inflorescence, consisting of eight or ten separate stems, which group together to form the tuft of the plant. The large leaves, which make excellent green food or dry fodder for cattle, spring from the nodes of the gradually tapering stems. The seeds, at first green, become brown, and finally of a purplish-black colour, being produced only on the head of the plant. They are very nutrient, and the colouring matter has been used in China to tint wine of a deep colour. Since the efforts made in Madras, the *Sorghum saccharatum* has been grown for making syrup in almost every part of the United States. The usual machinery, consisting of three rollers, either vertical or horizontal, and driven by steam or horse power. It is believed that cane in a high latitude will degenerate if grown continuously from its own seed. The Minnesota early amber variety is said to combine the characteristics of the Chinese Sorgho and the Imphee or white Liberian, and its kindred African varieties. Its early ripening and the bright amber colour of its syrup give its name. It is very rich in saccharine matter, the flavour very similar to that of pure honey. The syrup granulates readily, and yields sugar equal to the best ribbon-cane of Louisiana. Chinese Sorgho is also known as Chinese cane, also sumac cane, as its seed heads resemble a head of sumac. The stalk of the white Liberian or white Imphee curves at the top, leaving the head pendent, hence its name Goose Neck. The seed heads are shorter, more compact, and of lighter colour than the early amber. The Honduras cane grows about one-half taller than the early amber, Chinese, or Liberian varieties. Its seed top is of reddish-brown and spreading, hence the synonym 'sprangle top.' It is also called Maslodon and honey-cane.—*Letter of the Commissioner of Agriculture, Washington, 8th April 1880.*

SORGHUM VULGARE. Pers. Great millet.

S. commune, Beauv.	H. durra, Forsk.
Holous sorghum, Linn.	Andropogon sorghum, R.
Durra, Zurrut, Zura, ARAB.	Sorgo, IT.
Pyoung, BURM.	Joat-kia, of KANGRA.
Jolah, CAN.	Chavala, MALFAL.
Kau-liang, Pyang, CHIN.	Zoorna, SANSK.
Kaydee, EGYPT.	Chulum, Sualum, TAM.
Kulamboki, GR.	Jomuloo, Jonna, TEL.
Juari, HIND.	Jugeri, TURK.

Sorghum vulgare grows on light sandy soils, and requires little moisture. It is grown in Egypt, and in all the countries of the south and east of Asia, its grain being used as food for man, in the form of cakes and porridge, also for horned cattle, and its stalks, the karbi of India, as fodder for horned cattle and horses. It is grown in all the table-lands of India, is found in the Sutlej valley between Rampur and Sunnam at an

SORWARNA.

elevation of 6000 feet, but in the N.W. Himalaya only in the valleys. It is also grown by the Karen and Burnese. It grows on a reedy stem to the height of 8 or 10 feet, and bears irregularly-shaped clusters of innumerable round grains about twice as big as mustard seed. It is common all over the Levant, under the name of durra (or dourrah); also in Greece, where it is called kalamboki; there is likewise a coarse sort in Italy, called Melica rossa, or Sorgo rosso.

In China, the seeds of the red variety are made into wine in Hu-peh, and the exhausted grains are a favourite food for pigs. When grown for cattle in Madras, 10,000 lbs. weight of green fodder may be taken off an acre of ground every three months. If the plot be irrigated, one-fourth more may be obtained, and the crop be cut every two months. That is, an acre of irrigated ground will produce about 70,000 lbs. weight of green and nourishing fodder in one year.

Major-General Sir J. B. Hearsey, K.C.B., sent from Barrackpur, on the 5th March 1858, the seed gathered from one plant, which came up accidentally during the early rainy season of 1857, and grew to nearly 11 feet in height. He had it supported by a strong bamboo. It spread out four shoots from the stem close to the ground, and these stems also threw down roots. The head from the principal shoot was very large; the side shoots also headed, but these were small. The number of seeds received from this one plant was 12,700. In the Chittuldroog and Nuggur divisions of Mysore, it is sown during the thunder showers between the end of April and May, and the crop is reaped in September and October. The great defect in this grain is that it will not keep, being soon destroyed by insects; and the ryots have difficulty in preserving sufficient quantity of it for seed in the following year. The seed grain is mixed with ashes, and packed with paddy straw; in spite of which, however, insects obtain admittance; but the stems or straw of this grain, when well preserved from rain, will keep for about ten years, and are used as fodder. This is the millet designated in Ezekiel iv. 9.

Moisture,	White, 12.70	Red, 12.00
Nitrogenous matter,	9.18	9.51
Starchy matter,	74.53	74.71
Fatty or oily matter,	1.90	2.15
Mineral constituents (ash),	1.69	1.63

—*Cleghorn's Report; Powell, i. p. 383; Indian Field, 1858; M. E. J. R. of 1857; Mason's Tenasserim; Macartney's Embassy.*

SORON, an ancient town in the Etah district, N.W. Provinces of India, originally known as Ukala-kshetra, but after the destruction of the demon Hiranyakasyapa by Vishnu in his boar avatar, the name was changed to Sukara-kshetra. The architectural features of the pillars of its temple resemble those of the Kutub at Delhi. Numerous inscriptions in the temple bear date from A.D. 1169 downward.—*Imp. Gaz.*

SORREL, *Oxalis corniculata*, Linn., and also the *Rumex acetosa*, both used as spinach and salad. *R. scutatus* is a very delicate vegetable, of easy culture in light soil. It is grown by sowing the seed broadcast, and thinning the plants to the distance of 8 or 10 inches from one another. It may be sown at the commencement of the rains.—*Jaffrey; Riddell.*

SORWARNA. HIND. An offering of money

to a beloved friend or relative, to be distributed in alms.

SOSAN or **Sosun**. **HIND.** *Iris Nepalensis*, any of the lilies, species of *Amaryllis*. **Sosanbar**, **ARAB.**, *Thymus chamædryas*. **Sosni-rang**, lilac colour of iris.

SOTER MEGAS, B.C. 70, a nameless great Bactrian king, who had coins with an Aryan legend, which James Prinsep and Professor Lassen ascribed to Azes. On all is a peculiar monogram with three prongs. The same monogram was continued to coins of Kadphises and of the Kanerki, but it is not found in those of the Hercules type derived from Hermæus. Mr. H. T. Prinsep considers him to have been contemporary, but not identified, with Vikramaditya, and that he assumed the title of Soter Megas, which was continued down by the Kadphises kings. He considers that the nameless kings, with those on whose coins are the words Kodes or Hyrkodes, although mere local chiefs, such as now rule at Kulm, Kunduz, and Balkh, preceded the conquest of the Panjab by Vikramaditya, B.C. 56.

SOUARI NUTS, the fruit of *Caryocar nuciferum*, *L.*, *C. tomentosum*, *Willd.*, etc. The kernel is said to be the most delicious of the nut kind. It contains an excellent sweet oil, used in South America. The timber of *C. tomentosum* is valuable for ship-building. These might be introduced into India.

SOUBAIIHA, an Arab tribe in the Lahej district of Yemen, who have been termed the gypsies of Arabia.

SOUIE. **HIND.** The hard inner part of the grains of wheat, obtained by sifting the coarsely-ground wheat. In making bread of wheat, one process is first thoroughly to clean the wheat, and for this one woman will clean 430 lbs. in a day, and in the evening the cleaned wheat is placed on a table and thoroughly wetted, and the water left to drain from it during the night. The next morning the still moist grain is ground in hand-mills by women, a woman grinding 40 lbs. in a day. It is then sifted, and as much fine flour and souje as can be obtained are laid aside. The remainder, then termed Naka, is subjected to a more powerful mill, and an inferior kind of souje and a second sort of flour obtained from it. The residue is then ground in a large mill, and yields a coarse flour and bran.

Bran is what remains of wheat after the flour and souje are extracted.

Souje is the heart of the wheat, and is obtained by coarsely sifting the coarsely-ground wheat with sieves and soopas, by which all the small particles of the bran are separated from it. One woman can clean 50 lbs. a day.

Flour.—The first sort of flour is produced by finer sifting from the first grinding of the wheat. Second sort flour is sifted from the first grinding of the wheat. Second sort flour is sifted from the first grinding after the fine is extracted, and also from the second grinding.

Bread.—The materials for bread are 60 lbs. of first sort souje, 20 lbs. of second sort or naka souje, and 20 lbs. of first sort flour; 100 lbs. of these ingredients produce about 128 lbs. of bread.

Biscuit is made from second sort souje and flour mixed in the proportion of 75 lbs. of naka souje and 85 lbs. of second sort flour. This produces only

about 85 lbs. of biscuit, which, after being well baked, is dried for two days in a kiln.

Barm or *Yeast* sufficient for 800 loaves 1 lb. each, is made of brown sugar 2 lbs., potatoes 1½ lbs., hops ½ oz., with half a gallon of water. Boil and mash the potatoes, boil the hops until none appear on the surface of the water, strain and dissolve the sugar in the liquid. The potatoes are then added, and the whole is strained into a jar or small tub. This quantity produces about 9½ pints, and is generally ready for use in 12 hours. The addition of a small portion of the old barm hastens fermentation. Bombay wheat is whiter and heavier compared with that from Kattyawar, and produces a greater quantity of souje and flour. That of Kattyawar is smaller and darker, and produces good flour, though smaller in quantity, with less souje.

SOUL. According to the Greeks, the psyche was the life, the perceptive principle. The pneuma was the spiritual nature. The leyp-by-a of the Burmese is the psyche of the Greeks. In Burmese everyday philosophy, the life of man resides in the leyp-by-a or butterfly spirit, and dies when it disappears. Man, at the point of death, opens the mouth, and the butterfly escapes from the body, but only to die at the same time. The leyp-by-a is the cause of dreams. It is not necessary for the butterfly to remain constantly in the body; when the man is asleep, it leaves the body, and roams about far and wide, but only to known places, lest it lose its way, and, unable to return, both would die. Or it may be gulped up by a below, evil spirit, or kept in durance by a ta-seht, or by a sohn, wizard.

Burmese unwillingly wake a sleeping man, as his leyp-by-a may be at a distance. An assistant-commissioner rides up to a small townlet, and calls for the headman, but he is asleep. 'Well, then, wake him;' but old Mah flatly refuses; on which the Englishman gallops off, raving at the dreadful impertinence of the people, and Mah Gye tells all her neighbours how the young Englishman actually wished to imperil her husband's life.

The Greenlanders believe that after death the soul travels to Torngarsuk, where reigns perpetual summer and sunshine, and no night; where there is good water, endless seals, birds, and reindeer.

The soul of the Arabs was the tayf or al tayf al khafi, a mysterious or invisible spirit, the ether.

From the passage in the Koran, xlix. 43, the Sufi hold that the soul can leave its body and visit different scenes while the body lies entranced. This, they say, happens to a certain extent every time a man sleeps. Jalal-ud-Din says—

'When deepest slumber doth the senae enfold,
Into the regions of the Infinite
Men's spirits wander free and uncontrolled.'

Soul or spirit, according to the Hindu philosophers, is eternal, separate from, but may be bound up with, the body.

Soul and animal life are believed by the Jains to be the same, and to be one in gods, men, and brutes.

The Siens of Cambodia believe that animals also have souls which wander about after their death; thus, when they have killed one, fearing lest its soul should come and torment them, they ask pardon for the evil they have done to it, and offer sacrifices proportioned to the strength and size of the animal. See Spirit-Worship.

SOURA, Sowrah, or Saur is a term, identical with Saïra, given to populations occupying the fastnesses of the Eastern Ghats, along with the Khand and Kol. The Sowrah are wholly within Telingana, and extend from the Godavery to the southern frontier of the Khand, a large district and dependency of Bustar, in Central India, is surrounded by the Telug in the south, Khand and Mari Gond on the east, and Hindus to the north; situated between lat. 18° 30' and 19° 30' N., and long. 83° 30' and 84° 30' E. In the ancient Nāmalingāna Shāsanam of Amara, descriptive of the races inhabiting the Indian Peninsula, the Sowrah (Shabarah) are described as people who dress in leaves, and they are placed in a sub-family with the Kiratah, who dress in peacocks' feathers, etc., and the Pulindah, who only know one language. The Sowrah sub-family is described as a variety of the Chandala. They have become divided into two clans,—(1st) the Kapu Sowrah, who are dispersed over those hills of Purlah Kimedy and Palkonda which are in the more open country, and who, from frequent intercourse with the Telinga and Uriya people, have picked up their language and some of their civilisation. Many Kapu Sowrah now live in villages in the plains, and at the foot of the hills, and lead an industrious life. (2dly) The Konda Sowrah or hill Sowrah inhabit the dense forest of the hills to the north of Purlah Kimedy. A large portion of the Konda are nominally under the control of the Bissoyi or hill chiefs of Goomah and Gibau, Soringhee, Ryagudda, Wogayagudda, Jeringhee, and Coipuram. But the greater number go by the name of the Onanyah Sowrah, and are independent. They are bounded on the north by the country of the Khand, another hill tribe, on the east by the zamindaris of Pedda Kimedy and Chinna Kimedy, on the south by Purlah Kimedy, and on the west by Gunipuram, a taluk of the Jeypore country. As viewed from the summit of Mahendragiri, a lofty mountain on its confines, this country appears as a continuous mass of hills which rise behind one another, range after range. Cultivation of dry grains is carried on, on the slopes of the hills, often at an angle of 45 degrees with the plain, while here and there crops of paddy are raised on the small level patches between the hills, advantage being taken of the numerous springs and hill streams. Besides the forts or places of residence of the Bissoyi, there are a few villages of tolerable dimensions among the hills, but the Sowrah generally live in huts perched singly or in small groups of four or five on the hill-sides.

They sing a song which they call Kellangiya. They eat snakes, white ants, mice, monkeys, birds, fruit, vegetables, and grain, but, like the Khand, they object to the use of milk in any form. The women's dress consists of a coarse cloth kilt fastened round their waists, and reaching to their knees, and nude above the waist. The men merely wear a langooty, passing between their legs. Their ornaments consist of nose-rings and ear-rings, bangles, etc., made of brass or bell metal, and as many strings of coloured glass beads worn round their necks as they can accumulate. On festivals, the men decorate their hair with peacock and other feathers. The Sowrah, up to the year 1855, were in the habit of making incursions into the plains of Kimedy and Gunipuram, in small parties of five or ten,

and waylaying travellers to rob them of their cloths; and as they were utterly reckless of life, several murders occurred annually. Every individual Sowrah fixes a stone in the ground a span upwards, and calls it by the name of mountain god. He lays a little of each crop before the stone, then sacrifices a fowl, gets some toddy, and, after dedicating to the god, he mixes them all together, and eats them with his friends and relatives. When a child is born, they assign to it the name of the day on which it was born, or that of the presiding demon, the latter being determined by a priest, called by them Vejju. A stimulant prepared of roots and bark is administered to the mother immediately after the birth, and on the fourth day she resumes her ordinary occupations. A young man having selected a bride, messages are sent to her parents, and finally the young man himself goes, bearing a pot of toddy or other present. Three posts are fixed in the ground, between which the bride and bridegroom with their respective friends assemble, and a drunken feast is commenced. The bride and bridegroom sit together while turmeric water is poured on their heads. Presents of cloth, beads, rings, etc., are exchanged. Fowls, and, if procurable, sheep are sacrificed, and the flesh is cooked, made up into balls with some sort of grain, and distributed among the party. They all join in a dance, hopping from one leg to the other, at each movement snapping their fingers and uttering an ejaculation, while at intervals the whole of the dancers bump together and again separate. If the parents of the bride refuse to consent to the marriage, the friends of the bridegroom watch their opportunity and carry her off. The relatives of the girl pursue and attack the opposite party, but even though successful in retaking her, they are prohibited by their customs from giving her in marriage to any one else.

The Sowrah burn their dead, and the following day bury the ashes on the same spot, over which they erect a rude pandal. On the fifth day the priest makes an offering of toddy, sacrificing at the same time fowls or animals, according to their means, to the spirit of the deceased, placing round a pot of toddy a number of leaves to represent the ancestors of the deceased; upon each leaf the priest sprinkles a little toddy, while pronouncing the name of the person represented, after which the toddy is divided among the party. At the end of the first and fourth years, there is feasting on food articles, which are first dedicated to the spirit of the deceased. The Sowrah race is far more wild and savage than the Khand, but they had no share in the Meriah sacrifices performed by the latter. Their bamboo bow is about a yard in length, the string being made of a thin slip of the outer coating of the bamboo, firmly bound on at each end with sinews. The arrows are of light reeds, feathered, with a head of flat beaten iron, having two or three pairs of barbs. They generally aim at the stomach or thigh of their victims, and the wounds are consequently dangerous and very often fatal. Some of them carry rude iron knives and a hatchet called tungi. The Muli Sowrah work in iron, making arrow-heads, knives, etc.; others, called Medari Sowrah, make bamboo mats; and the Arasi Sowrah weave their coarse cloths. They do not know how to tell a lie. They are not sufficiently civilised to be

able to invent. An insurrection occurred in 1858.

SOURABAYA or Soerabaja, in lat. $7^{\circ} 13' S.$, long. $112^{\circ} 46\frac{1}{2}' E.$, is a town of Java, situated on the mainland on the shores of a narrow strait, which divides it from the large island of Madura. It is the only perfectly secure harbour on the north coast of Java. It gives its name to a district with a population of 1,722,626, the bulk of whom are Javanese, with 13,185 Chinese, and 1955 Arabs. The town is $1\frac{1}{2}$ miles from the sea, is divided by a river 80 yards wide, which is navigable by boats 100 miles from the sea, and is sufficiently deep at the entrance to admit vessels of 250 tons. Grissik, a seaport town about 5 miles distant, may almost be termed an Arab colony. There are fish-ponds, extensive tanks of salt water, in which sea-fish are fattened for the table. These are highly prized by the Chinese, who spare no expense to procure them.—*Mr. Earl*, pp. 47 to 78.

SOUSSEI. HIND. A striped cotton cloth. A kind of soussei is produced in France, blue striped, closer in texture than the Indian, perhaps, but belonging to the same class or category, and another called grivas, in particular, near Vichy, both excellent and fast-coloured fabrics, and both used for trousers and blouses. The Indian soussei are always striped or checked, woven in narrow patterns with coloured yarns, blue and white, black and blue, red and blue, yellow, white, and blue, green and chocolate; and they are worn, fine and coarse, literally by millions of the Hindu people of the middle and lower classes. Soussi is manufactured in Tanjore, Trichinopoly, St. Thomé, or Mylapore. Those of Tanjore and Trichinopoly are made of silk, and mixed with cotton of various colours and sorts, but Mylapore weavers work only in cotton. They are 7 yards by 1; the silk pieces are sold at from 8 to 20 rupees, those of cotton at 2 to 7 rupees each. These are used for undergowns or lungas by the Muhammadan women, and as trousers by men. The colours and patterns differ very little anywhere within the confines of India, whereas sarrees, dhotis, and loongis, to suit, differ in particular localities.

SOUTH CANARA. This is a coast district between the sea and the high plateau of the Dekhan, in which most of its rivers consequently take their rise. South Canara has a seaboard of 120 miles, besides about 404 miles of estuaries. In Canara, fish are almost the sole meat food of the people. Hindu mythology says that the whole of South Canara was formerly under the ocean, the boundary of which was the edge of the Mysore plateau, and that the sea was dried up by a flaming arrow of the god Parasu Rama. More modern science robs the fable of its poetry, but leaves it its groundwork of truth, by ascribing the existence of Canara to volcanic action. There are also extensive littoral upheavings. Canara and its boundary hills are the first land that meets and receives the full force of the south-west monsoon, and the annual rainfall on the coast is 130 inches.

SOUTHERN INDIA is a term applied sometimes to all the Peninsula of India south of the Nerbadda river, sometimes to that portion of it lying south of the Kistna river. In the latter restricted sense, it is occupied by the Canarese,

part of the Telugu, Tamil, Malenlai, and Tulu-speaking races, and comprises part of the Circars, the kingdoms of Mysore, Cochin, and Travancore, and the British provinces of Nellore, Guntur, the Ceded Districts, Chingleput, N. and S. Arcot, Salem, Tanjore, Tinnevely, and Coimbatore, all largely cultivated.

The architecture and ornamentation of the temples of Southern India have been made known by the representations and descriptions of Bijapur, Dharwar, Ahmadabad, and other cities, by Mr. Fergusson and Col. Taylor, and they are by far the most interesting and complete memorials of the sacerdotal and regal grandeur of Southern India which are in existence, and give a striking impression of the former splendour of those empires. The Dharwar sculptures are the records of Chalukya, Hoi Sala, Bellal, and other local dynasties; some of the figures are clothed with defensive armour, and there is no trace of a sewu garment. All the men's figures have short waistcloths or dhotis, like kilts, with an end in some cases cast over the shoulder. The women are in the same costume, but both in the earlier memorial stones and on some of the profuse sculpture on the temple at Hallabid, in Mysore (Dhara Samudra, tenth to twelfth century A.D.), they wear bodices, tied in front, as Hindu women wear them at present. Many temples in the south and west of India, as also in Gujerat and Orissa, etc., are known to belong to periods as early as A.D. 500. Groups of figures on them are numerous beyond description; the men wear head-dresses in the form of conical crowns, richly covered with ornaments, their bodies are naked, and their breasts and arms show necklaces and armlets of very ornate patterns. From the loins to the knee, or middle of the thigh, they have in most instances kilts, as it were, also composed of ornaments; and many are altogether naked, both male and female, with a girdle of ornamental pattern round the loins. These figures abound among the sculptures of Ellora, and upon the Hindu temples of Dharwar and Mysore of the eighth to the thirteenth century; also upon the Chola temples at Conjeveram and elsewhere, probably of the same era. In the Jain sculpture the male and female figures are invariably naked, but ornamented in general with necklaces, bracelets, armlets, and zones of exceedingly intricate and beautiful patterns, in imitation, probably, of the chased gold work of the period.

SOUTHERN MAHRATTA COUNTRY constitutes the British zillah of Dharwar, and ought likewise, geographically speaking, to include the small province of Sunla. The general boundaries are the rivers Kistna and Bhima on the north and north-east, the Tumbudra river on the south, the Hyderabad territory on the east, and the Syhadri range of mountains or Western Ghats on the west. This tract affords a great variety of elevation and of geological structure. The western portion abounds with lofty forest trees, fastooned by enormous perennial creepers. The bamboo forms a thick and luxuriant underwood in some places, while others are entirely open; and the banks of many clear and rapid streams flowing through it abound with the black pepper plant, the wild cinnamon, and other odiferous shrubs. Portions of this forest are often left entirely untouched by the axe or knife. These are called

kans, and are favourite resorts of wild animals. To the east of the regular forest lies a tract called the Mulnad or rain country. The bushes consist chiefly of the karunda, the pallas, etc. It abounds in tanks and artificial reservoirs for purposes of irrigation. East of the Mulnad is a great extent of alluvial plain, producing fine crops of wheat, cotton, maize, millet, *Sorghum vulgare*, *Panicum Italicum*, *Cicer arietinum*, etc. And on the Hyderabad frontier is a succession of low, dry hills, with tabular summits, often rising in abrupt scarped precipices, and intersecting and traversing the plains in various directions. The first or mountainous division consists chiefly of micaceous clay and other schists, which to the northward are succeeded by basaltic or trap formation. The Mulnad is composed of undulating claystone hills, which become covered with basalt to the north. This trap formation extends in a slanting direction from S.W. to N.E., nearly coinciding with a line drawn from Sadashghur on the coast to Bijapur and Sholapur, and is almost coincident with that marking the separation of the two great tribes of the population using totally distinct languages, the Marhatta and Canarese. The hills to the N.E. and E. are all of sandstone, sometimes resting on schists, sometimes immediately on granite, which latter is the rock nearest the surface in the central and eastern plains. A well-defined range of hills to the S.W., called the Kuppitgode, is basaltic. The extensive plains lying between these different lines of hills and eminences are composed of the rich black mould called regur or cotton ground, resulting from decomposed basaltic rocks. To the N.E. a considerable tract of limestone is found, resting on the sandstone, about Bagalcote, Balami, Hunguud, Mudibihal, etc.

SOUTHERN-WOOD, *Artemisia abrotanum*.

Downah, . . . HIND. | Dawanum, . . . TEL.
Markolundu, . . . TAM.

The Tamil people sometimes mix the fine powder of it with gingelly oil, and anoint themselves with it after bathing; and it is one of the many sweet-smelling shrubs that are strewed before the Hindu gods at religious ceremonies. The Muhammadans prize it for its fragrance as a flower.—*Ains. Mat. Med.* p. 44.

SOUTH MAHRATTA JAGIRS comprise a group of native states; population 610,000. They are Sanghi, Jamkhandi, Miraj (senior and junior branch), Kurandwar (senior and junior branch), Mudhol, and Ramdrug. The first four belong to Brahman chiefs of the Patwardhan family.

SOUTHWELIA BALANGHAS, China chesnut; seeds when roasted highly palatable.

SOWA, also Shuta-pooshpa. HIND. *Anethum sowa*, *Roth.*, Indian dill. The seeds are in every bazar. They form an ingredient in curries, are employed as a carminative, and are bruised and applied externally in rheumatic and other swellings of the joints.

SOV-YEW. BURM. The egg tree of the Karen-nee, chisel-handle tree of the English in Burma, is stated by Dr. Mason to be a species of *Dalbergia*. Its maximum girth $2\frac{1}{2}$ cubits, and maximum length 10 feet. Found scattered all over the Amherst, Tavoy, and Mergui forests, inland, in undulating ground only, not near water. When seasoned, it floats on water. It is used by Burmese in preference to any other for

handles of chisels and tools, also for helves of axes and hatchets. It is a very hard, fine-grained wood, unequalled for such tools as chisels which are struck with a hammer or mallet. This wood is of a yellowish-white in colour, with patches of black interspersed. It is always procurable in the markets.—*Captain Dance*.

SOY. Taiang-yu, CHIN.; Soya, JAP. A well-known sauce made from the *Soja hispida*, which grows in China and Japan. In Java it is procured from the *Phaseolus radiatus*, the green gram, harce moong, or putchay payroo of India. The beans are boiled soft with equal quantities of wheat or barley, and left for three months to ferment; salt and water are then added, when the liquor is pressed and strained. Its price is about 6s. per gallon in the London market. Genuine soy is well flavoured, thick, brown, and clear, and when shaken in a glass, it should have a coat on the surface of a bright yellowish-brown colour. The best is exported from Japan. The flavour and ingredients of soy vary considerably, even among the people who make it, and much of that exported is supposed to be more or less adulterated. Chinese use the *Soja hispida* pulse when ripe for the manufacture of an oil, and give the remnant of the grain, together with stalks and leaves of the plant, as a food for cattle. Its cultivation has become general in Syria, Dalmatin, and Hungary. In the two former countries, the grain, after being allowed to ripen, is threshed out and roasted, and then employed for making coffee. In China, the grains are soaked till they swell and become soft, and then cooked like the small sort of beans. In other places, the seeds are set in a very damp, watery soil, and kept in darkness till they sprout up into a long white stalk, 4 or 5 inches high, which is then cut and served up after the manner of a salad. A sort of cheese, consumed in quantities by the poorer people both in China and Japan, is made from *Soja hispida*.

SOYMIDA FEBRIFUGA. *Ad. de Juss.*

<i>Swietenia febrifuga</i> , <i>Roth.</i>	|	<i>S. rubra</i> , <i>Rottler.</i>
Swamy, . . . CAN.	|	Patranga, . . . SANSK.
Bastard cedar, . . . ENG.	|	Shem, . . . TAM.
Rohuna, Rohitaka, HIND.	|	Sumi, Somi, Somida, TEL.
Rohuni, Rheyin, MAHR.	|	

This large forest tree is a native of all the central and southern parts of India. The wood is red-coloured, light, and easily worked, is reckoned durable and strong, and good for indoor or cabinet purposes, but not adapted to those requiring exposure to sun and weather. Captain Beddome says it never rots underground. The bark is useful in intermittent fevers, where astringent tonics are applicable, but of very questionable efficacy as a true antiperiodic for mild ague, in which, doubtless, like all other astringent tonics, it will often succeed; it should be given in the form of extract. Mr. Broughton says that the substance to which the bark owes its bitter taste has the properties of a resin. It is of a yellowish-white colour when pure, is sparingly soluble in water, but is insoluble if the water contain acids; it is soluble in alcohol, ether, and benzol, but these liquids do not completely separate it from foreign substances.

SOZNI, a bed-cover quilted or embroidered in a pattern; the word literally means lily pattern, from *Susan*, a lily.

SPAIN, *Espana*, the ancient *Hispania*, a country in Europe, part of which was long held by Arabs. In the East Indies Spain holds the Philippine Islands. In 1519 the Spaniards laid claim to the Banda (United), or five (really ten) Nutmeg Islands, and the Moluccas, or five Clove Islands, as falling within the line of their sovereignty laid down by the Pope in 1493. From 1505 the Court of Spain had earnestly engaged in the project of finding a way to the Spice Islands from the west, and in 1508 Pinzon and De Solis sailed in search of them, and explored the coasts of South America to the 40th degree of south latitude. It was not, however, until 1515 that the Pacific was discovered, when Nunez de Balboa, who in 1510 had been placed in command of the Spanish colony of Santa Maria on the Gulf of Darien, having gone on an expedition into the Sierra de Quarequa, suddenly from one of its peaks beheld a boundless sea outstretched below him. From the narrow isthmus on which he stood, it extended east, and west, and south, until it was lost in space. This was the true discovery of America, that it was not, as Columbus believed to his dying day, the easternmost coast of Asia, or the West Indies, but a separate continent; and as this new world, with the vast waste of ocean beyond it, swam into his eyes, and all its moral significance flashed upon his mind, kneeling down upon the scarped summit from which he gazed, Balboa raised his hands to heaven in silent wonder and gratitude at the immensity of the revelation which had been made to him. Then, descending with all his men to the shore of the great South Sea, and wading up to his waist in its waters with his drawn sword, he claimed possession of the infinite expanse in the proud names of Aragon and Castile. In October 1515, De Solis was again sent out to discover the Spice Islands from the west, and in January 1516 entered the Rio de la Plata, originally named Rio de Solis; its present name not having been given to the river until 1525, when Diego Garcia found some plates of silver, probably from the mines of Potosi, in the hands of the wild Indians on its banks. De Solis, having anchored in the mouth of the river, went on shore to explore the country inland, when he and eight of his men were set upon and massacred by the natives, and roasted and devoured by them in sight of his ships; whereupon the disheartened expedition returned to Spain. In 1517, Ferdinand Magellan, who, according to De Barros, had been present at the capture of Malacca, proceeded to Valladolid, and gave it as his opinion that the Spice Islands fell within the Spanish boundary, and undertook to take a fleet thither by the south of the American continent. Accordingly, in 1519, Charles v. gave him five ships for the purpose. Every one of them was accompanied by a Portuguese pilot; and the *Santiago* was commanded by Joao Serrao, an old Portuguese, on whose knowledge of the east, and especially of the Moluccas, of which they were in search, Magellan placed great reliance. On the 21st of October 1520, St. Ursula's day, he reached the cape, which he called Cabo de las Virgenes, at the entrance of the strait now called after Magellan, but which he named San Vittoria, in affectionate honour of his own flagship. From many fires having been seen on the land south of the strait, he named it Tierra del Fuego. On the 27th of November he emerged from the strait

into the open Pacific Ocean, and the cape which terminated the strait on his left (on Terra del Fuego) he named Cabo Deseado (the Desired), now called Cape Pillar. On the 6th of March 1521 he discovered the beautiful islands to which, from the thievish propensities of their inhabitants, he gave the name of the *Ladrones* (Thieves); and on the 16th, the islands he called the Archipelago de San Lazaro, a name afterwards changed by Villalobos, in honour of Philip II. of Spain, to that of the Philippines. On one of these islands Magellan was slain in a skirmish with the natives, brought on by his proselytizing zeal, whereon Joao Serrao and Duarte (Odoardo) Barbosa were elected joint commanders of the expedition. (On Serrao's death, Caraballo was elected commander-in-chief.) On the 8th July 1521 they anchored before the city of Borneo; and on Wednesday, 6th November 1521, they at last descried the long-sought-for Molucca Islands, the object for the discovery of which, by a western route, their daring adventure was undertaken. On the 8th they anchored at Tidore. In the following December, of the two remaining ships of the expedition, it was resolved to send the *Trinidad* back to Spain by Panama and the Strait of Magellan, and to take the *Vittoria* home, under Sebastian del Cano, by the Cape of Good Hope. In order to escape the observation of the Portuguese, her course was steered so far south as the 42d parallel of latitude, but, with all their caution, they approached within five leagues of the Cape on the 6th of May 1522. On the 9th of July, when they reached the Cape de Verd Islands, they were obliged to put in at Santiago, where, to prevent the suspicions of the Portuguese being roused, they said that they had come across from America. It was here they discovered that in sailing round the world they had lost a day, for while by the *Vittoria's* log it was Wednesday the 9th of July, at Santiago it was Thursday the 10th. On the 6th of September the *Vittoria* arrived at San Lucar, the only survivor of the noble fleet which had sailed from the same port on the 20th of September 1519. The circumnavigation of the world, which had originated in the dispute between Spain and Portugal about the possession of the Moluccas, was completed, and the sphericity of the earth demonstrated, against the authority of Cosmas Indicopleustes, which had ruled geographers for nearly a thousand years. Charles v. received Del Cano with the highest distinction, and conferred on him a life pension and a coat of arms, which bore branches of clove, cinnamon, and nutmeg, with a globe for the crest, and the motto, 'Primus circumdedisti me.' In regard to the dispute as to the respective rights of Portugal and Spain to the Spice Islands, the king of Spain was confirmed in the possession of the Philippine Islands, but the Moluccas were finally surrendered to the king of Portugal, under the agreement that the king of Portugal lent the king of Spain 350,000 ducats in respect of any claims which the latter might have on the Moluccas, in the possession of which the king of Portugal was not to be disturbed until the money was repaid, which was never done. By a decree of the Cortes, dated 19th October 1668, the monetary system is as follows:—100 centimes = 1 peseta = 9d. Gold coins—100, 50, 25, 20, 10, and 5 pesetas. Silver coins—1, 2, 5 pesetas, and 20 and 25 centimes. Bronze coins—1, 2, 5,

and 10 centimes. 100 pesetas = £3, 19s. 2d.; 10 pesetas = 7s. 11d.; and the other coins in proportion. A 25 peseta gold piece is nearly equal to a sovereign.—*W. A. Browne, The Merchant's Handbook; Sir George Birdwood's Researches; Marsden's History of Sumatra*, p. 9.

SPANIEL. King Charles' breed of spaniels is supposed to have been brought from Japan by Captain Saris in 1613. Dogs always form a part of a Japanese royal gift.

SPARROWS. There are several species of this bird, of the genera *Passer*, *Petronia*, *Pyrgita*, of the family *Fringillidæ*. They are not used as food by any of the races of their native countries, though there is not much difference of flavour in a 'sparrow pie' between *Petronia stulta* and *Gymnoris flavicollis*. Homely *Passer domesticus* is every bit as good as an ortolan. Very much depends on the cooking. Sparrows in China are let loose as an act of merit.

SPARTO GRASS, *Lygæum spartum*, *Loeffl.*, has been introduced into India. The grass sells in London at £5 the ton. In 1868 England imported 95,000 tons from Spain. It is the alfa of Algiers.

SPARUS, a genus of fishes in the Keeling Islands which graze in shoals, with their strong bony jaws, on the tops of the coral branches.—*Darwin, Res.* p. 553.

SPATHIUM CHINENSE. *Lour.*

Aponogeton monostachys, *Link.*, *Rh.*

Gotti gaddi, Kottika, TEL. | *Namua dumpa*, . . TEL.

The roots are much prized as food by the Yanadi. In Tenasserim one or two species of *Spathium* grow in the water, one of which, found on the banks of the Irawadi, has roots nearly as good as potatoes.—*Mason; Voigt.*

SPATHODEA ADENOPHYLLA. *Thw.* *Heterophragma aden.* *Scem.* Palol, SINGH. A small tree occasionally found in Ceylon gardens. It was introduced into the agri-horticultural gardens at Madras.—*Thw.; Gamble.*

SPATHODEA ARCUATA. *Wight Icon.*

Dolichandrone arcuata, *Hooker.*

Mer-singi, . . . MAHR. | *Ran-palai maram*, . . TEL.

A small or middle-sized tree common in the Wallia forests of Coimbatore, and in the forests on the Bombay coast. It furnishes a strong wood, used by the turner.—*Wight; Gibson; Gamble.*

SPATHODEA FALCATA. *Wall., List.*

Bignonia spathacea, *Roxb.* | *Dolichandrone falc.*, *Scem.*

A small or middling-sized tree, Wodi, TEL., common in most of the forests in the Madras Presidency, in Mysore, in Chanda and Bombay, but not found in Ceylon or Burma. The timber is light-coloured, strong, and serviceable, and much used by the natives for agricultural purposes, building, etc.—*Beddome, Fl. Sylv.; Gamble.*

SPATHODEA RHEEDII. *Spreng.*

Dolichandrone Rheedii, *Scem.*

Mer-singi, . . BOMBAY. | *Kanpillay maram*, TAM. ?

Tha-khoot-ma, . . BURM. | *Vodi, Udi, Wodi*, . . TEL.

Nir ponglam, . . MALAC. | *Ganora karra*, . . "

Deys danga-gass, SINGH.

This small thin tree is a native of the west of Ceylon, the Peninsula of India, the forests of the Northern Circars, of the Godavery, and British Burma. The trunk is very irregular. In a full-grown tree the average length of the trunk to the

first branch is 30 feet, girth 7 feet. A cubic foot weighs 23 to 35 lbs. It is strong, of a whitish colour, and in Burma, where it sells at 8 annas the cubic foot, it is used for yokes and cart-poles.—*Beddome; Dr. Birdwood; Gamble.*

SPATHODEA ROXBURGHII. *Spreng.*

Bignonia quadrilocularis, | *Heterophragma Rox-*
Roxb. | *burghii, D.C.*

A large tree, with a straight trunk, and of considerable height. It is a native of the Northern Circars, flowers in the hot season, with spreading branches and large rose-coloured and delightfully fragrant flowers, and is remarkable for its leaves. Roxburgh says its wood is used for many purposes by the natives, but other accounts describe it as worthless. Buffaloes are very fond of the leaves.—*Roxb.; Voigt; Beddome; Gamble.*

SPATHODEA STIPULATA. *Wall.*

Bignonia stipulata, *Roxb.* | *Dolichandrone stipulata.*

Bet-than, Paet-than, BURM. | Palol, . . . SINGH.

A large tree of British Burma; wood used for bows and spear handles, also for paddles and oars. Weight, 48 lbs. Length of the trunk, 20 feet; girth measured 4 feet.—*Roxb.; Dr. Brandis; Gamble.*

SPATHOLOBUS ROXBURGHII. *Benth.* A gigantic creeper of the Sub-Himalayan region and of Burma. Its fruit and its red kino-like gum are used. It is one of the Leguminosæ.

SPAWN OF FISH. In Canara, men search in the rivers for hillocks wherein spawn has been left, gather the ova, and make it into cakes, which are considered a delicacy. The eggs of the kari and kalmuri are highly prized.

SPEKE, JOHN HANNING, discovered the source of the Nile. He was a captain in the Bengal army. Born 4th May 1827, at Orleigh Court, near Bideford, in the west of England; died near Bath, on the 16th September 1864, at the age of 37, from a shot from a fowling-piece. As a subaltern officer in the Indian army, he had made the campaign of the Panjab under Lord Gough, and in the four successive battles of Ramnuggur, Saddelapur, Chillianwalla, and Gujerat, acting throughout this terrible time with Sir Colin Campbell's division. He used to make hunting and exploring expeditions over the Himalayas, and in the untrodden parts of Tibet. A botanist, a geologist, and especially a lover of natural history, he toiled to collect specimens of every animal, every plant, and every mineral to be found in those wilds; shooting, collecting, and mapping the country as he went, he taught himself the knowledge required to enable a traveller to appreciate and utilize all he sees. In one journey to Africa he served under Captain Burton. The latter fell sick, and Speke went on and struck upon the great lake which is the fountain of the Nile, reaching it from the north, and proving what was at first but a sagacious conjecture, by tracking the river upwards to this same lake from the south. Speke began his march into Africa in the end of 1854. He named the inland sea the Victoria Nyanza. A column has been erected to his memory in Kensington Park, London.

SPERMACEI.

King-yu, . . . CHIN. | *Wallrath*, . . . GER.

Blanco de Baleine, . . FR. | *Spermazet*, . . . RUS.

Sperme de Baleine, . . " | *Esperma de Baleina*, SP.

The produce of a species of whale, *Physeter*

macrocephalus, found chiefly in the Pacific and Indian Seas. Spermaceti is found combined with oil in several cetacea, but it is most abundant in the sperm whale, and this is the commercial article. The head of the sperm whale has in front of the skull a solid mass of soft, yellow, and oily fat, based on the upper jaw, and forming the front and lower part of the snout. In a whale of large size this part weighs between two to three tons. The cavity called the case lies beneath and to the right of the spouting canal, and corresponds to nearly the entire length of that tube. It has a white fibrous lining, and is filled with a very delicate web of cellular tissue, containing in large cells a limpid and oily fluid, which is liberated by the slightest force, and has yielded up to 14 barrels, or 500 gallons. It is chiefly spermaceti. When newly obtained from the case of the whale, it is fluid, transparent, nearly colourless, without odour, and has a bland and creamy taste, not unlike that of very fresh butter. At the ordinary temperature of the tropics at sea (77° to 80°), it does not congeal, but in low temperatures, or when cast into cold water, it assumes a dull white hue and the consistence of lard.—*F. D. Bennett, Whal. Voyage*, ii. pp. 160, 223–26.

SPERMACOCE HISPIDA. *Linm., W. and A.*
Spermacoce hirta, Rothl. | Spermacoce scabra, Willde.
 Shaggy button weed, *ENG.* | Nutti churi, . . . *TAM.*
 Thartavel, . . . *MALAL.* | Madana, . . . *TEL.*
 This plant grows in Southern India, and is employed in decoction as a substitute for sarsaparilla. Roxburgh mentions 12 species.

SPHÆRANTHUS HIRTUS. *Burm.*

S. Indicus, Roxb.

Dookkon, . . . <i>ARAB.</i>	Zakhm-i-Hyat, . . . <i>HIND.</i>
Chagul nudi, . . . <i>BENG.</i>	Moondi booti, . . . "
Moondi, . . . <i>DURK., SANSK.</i>	Adaka majjen, . . . <i>MALEAL.</i>
Globe flower, . . . <i>ENG.</i>	Kottang karunde, . . . <i>TAM.</i>
Khamadrus, . . . <i>HIND.</i>	Bodasaram, . . . <i>TEL.</i>
Gurak moondi, . . . "	

This is common in Bengal and the Peninsula of India, near water-banks, at Ajmir, and in the Eastern and Central Panjab. Has a round pink blossom, considered heating, cleanses the blood; aphrodisiac; also opens the bowels; the flower and seed capsules are used. The roots, small oblong seeds, and receptacles are reckoned by the Vyteans amongst their anthelmintics, and are prescribed in powder. In the Panjab the official flowers are highly esteemed as alterative, depurative, cooling, and tonic.—*Gen. Med. Top.*; *Ains.*; *Powell*; *Stewart*; *W. Ic.*

SPHÆROCOCCUS, a genus of plants belonging to the natural order Algae. A great number of species have been described, including amongst them some of the most useful of the sea-weed tribe. These species have been distributed by later botanists into the genera *Rhodomenia*, *Gigartina*, *Chondrus*, *Gelidium*, and *Phyllophora*; and the genus *Sphærococcus* has as species the *S. coronopifolius*, *S. cartilaginaceus*, and *S. lichenoides*. The genus *Chondrus* affords the Carrageen moss, which is so much used as an article of diet. Some assert it is a species of *Gelidium* with which the swallows build their nests in the Eastern Archipelago, and which are so highly valued as articles of food by the Chinese. The gelatinous substance of which the nests are composed, however, seems really to be a natural secretion from the swallow itself.—*Eng. Cyc.* See Sea-weed; *Thallogon*.

Sphærococcus cartilaginaceus, *var. setaceus*. Shih-hwa-tsai, *CHIN.* It is met with in the Chinese market, and resembles the Carrageen or Irish moss.

Sphærococcus lichenoides, *Agardh*, Ceylon moss, occurs in the coast of the S. Andaman, Termooklee Island, and is met with in China, being frequently cast up by the sea. It may be very well substituted for the *Gracillaria lichenoides*, *Greville*.

SPICES.

Tabbal, <i>ARAB.</i>	Rampak-rampak, <i>MALAY.</i>
Speceri, Kryderi, <i>DA., SW.</i>	Burubu,
Speceryen, <i>DUT.</i>	Especiaria, <i>PORT.</i>
Epiceries, Epices, . . . <i>FR.</i>	Pranus korenja, . . . <i>RUS.</i>
Spezereyen, <i>GER.</i>	Especies, Especiesias, <i>SR.</i>
Garm-inussala, . . . <i>HIND.</i>	Sambaram, . . . <i>TAM., TEL.</i>
Spezj, Spezierie, . . . <i>IT.</i>	Bahar, <i>TURK.</i>

Spice is the term applied to all pleasant or pungent aromatic vegetable substances, used for flavouring food and condiments, and largely employed by the people of India. They are obtained from the barks, the dried seeds, the fruit, flower-buds, and root-stocks of different plants. The chiefly aromatic barks are the cinnamon and *Cassia lignea*; the seeds and fruits include pepper, cardamoms, coriander, cummin seed, star anise, chillies, mustard, nutmegs, mace, pimento, etc. The flower-buds of some furnish cloves and cassia buds, and the roots supply ginger and turmeric.

SPIDERS comprise the genera *Clubiona*, *Theridion*, *Pholeus*, and *Epeira*. But in common language the *Mygale* are called crab spiders and mason spiders, also trap-door spiders. Scorpion spiders are of the genus *Galeodes*; *Tarantula* spiders belonging to the genus *Lycosa* of Latreille. *L. tarantula*, *Latr.*, inhabits Southern Italy, and *L. melanogastra* Southern France. A spider, remarkable for the bright yellow colour of its web, a species of *Epeira*, was found by Captain Sherwill 1000 feet high on the summit of Maruk, south of Monghir. Some of the webs, including the guy-ropes, were from 10 to 12 feet in diameter, the reticulated portions being about 5 feet, in the centre of which the spider, of a formidable size and very active, sits waiting for prey. In one web was found entangled a bird about the size of a field lark, and eight young spiders feeding on the body. It was near the centre of the web, and its wings had been completely pinioned by the entwined web. The old spider sat about a foot above the bird. It was six inches across the legs, and had a formidable pair of mandibles. Walckenaer described a spider of large size under the name of *Olios Taprobanius*, which is very common in Ceylon, and conspicuous from the fiery hue of the under-surface, the remainder being covered with grey hair so short and fine that the body seems almost denuded. It spins a moderate-sized web, hung vertically between two sets of strong lines stretched one above the other athwart the pathways. Some of the threads thus carried horizontally from tree to tree at a considerable height from the ground, are so strong as to cause a painful check across the face when moving quickly against them, and more than once in riding Sir J. E. Tennent had his hat lifted off his head by one of these cords. The webs of spiders are strong enough to entangle and hold the small birds on which they are said occasionally to feed. Small house lizards may also be seized and devoured by these spiders.—*Blyth, Soc. Jour.*, 1850; *Gosse*; *Tennent's*

SPIKENARD.

Ceylon, p. 469. See Aranea; Epeira; Galeodes; Latrodectes; Mygale.

SPIKENARD.

Sunbul, . . .	ARAB.	Nardum, . . .	LAT.
Bal-chur, . . .	BENG., HIND.	Nardin, Narawastu, . . .	MAL.
Kan-sung-hyan, . . .	CHIN.	Shad-a-mangie, . . .	TAM.
Narden, Nardos, . . .	GR.	Jottamassie, . . .	TEL.
Jettamansi, Chebur, GUY.			

The *Nardostachys jattamansi* of the Himalayas and mountains of High Asia is now generally recognised to be the spikenard of the ancients. Its root is of a blackish colour, and resembles the bushy tail of the ermine. Its odour is strong and fragrant, and is much esteemed by all eastern nations. Spikenard has enjoyed celebrity from the earliest period of the world's history. It was esteemed by the Greeks and Romans, and is mentioned in the Bible, the Nard of Scripture being supposed to be the same substance as the *Nardos* of the ancients. It contains about 9 per cent. of balsamic resin, and a small proportion of essential oil. It is valued in hysteria, and is a perfect substitute for valerian. See Sunbul.

SPILANTHES ACMELLA, *Linn.*, Hin-ka-la, BURM., is planted by the natives of Tenasserim for its medicinal properties.—*Mason*; *Voigt*.

SPILANTHES OLERACEA, *Jacq.*, Akar-karha and Pokarmul, HIND., is a powerful stimulant and sialagogue, useful in headache, paralysis of the tongue, affections of the gums and throat, and for toothache, also in fever, cough, and special diseases.—*Powell*; *Voigt*.

SPILSBURY, DR., a Bengal medical officer who wrote an account of fossil bones on the Nerbadda in Bl. As. Trans.; also Geological Notes on the Valley of the Nerbadda, *ibid.*, 1833, 1834, 1839.—*Dr. Buist*.

SPINACIA, a genus of plants belonging to the natural order Chenopodiaceæ.

Spinacia oleracea, *Wight.*, spinach.

Isphanaj, . . .	ARAB., PERS.	Isfanaj, Isfanak, . . .	HIND.
Sag-paluk, Paluk, . . .	HIND.	Vumyley-keeray, . . .	TAM.

Much used as a vegetable in India, and the people consider it to be cooling. It grows in rich soil, requires plenty of water, should be sown thinly in drills or broadcast every month or six weeks; may be had during the hot months in sheltered situations, with attention to water.—*Powell*; *Jaffrey*.

Spinacia tetrandra, *Roxb.*, spinach.

Choolal, . . .	HIND.	Dumpa bachchali, . . .	TEL.
Isfanaj, . . .	PERS.	Mattu bachchali, . . .	"

The Hindustani name is indifferently given to *Spinacia tetrandra*, used in curries, and *Amarantus polygamus*. The former is a common sort of native greens, and, when boiled, resembles spinach; it is procurable nearly all the year round. The latter is much cultivated, is sown broadcast in beds from June to March. The leaves are sold in the bazar at one pie the seer.

New Zealand spinach is a hardy annual, with fleshy leaves and numerous branches, and as a spinach it is as valuable as the orache. If watered, grows freely, and produces leaves in the hottest weather.—*Riddell*; *Jaffrey*.

SPINFEX SQUARROSA, *Spreng.*, Rh.

Sea pink, Water pink, ENG. | Ravanasuruni misalu, TEL.

This curious diocious grass grows abundantly on the Coromandel coast. When the seed is ripe, the spherical head of the plant is detached and blown before the wind. See Isaiah xvii.

SPIRIT-WORSHIP.

13, and Psalm lxxxiii. 13. Its great seed-balls are known to the Singalese as Maha-Rawana-ræwula, the great beard of Rawana or Ramin. See Sand-binding Plants.

SPIRÆA, a genus of plants of the natural order Rosaceæ. *S. hypoleuca*, *S. cullosa*, and *S. canescens*, *Don*, occur in the N.W. Himalaya. *S. Kamtschatka* is used in Kamtschatka to make an alcoholic spirit.

SPIRÆA SORBIFOLIA, *Linn.*

Kapru, Ranthul, CHENAB.	Dodal, . . .	RAMI.
Kikri, . . .	JHELUM.	Kangtar, Boogli, SUTLEJ.
Karkni, . . .	KAGHAN.	Krust, Kanoori, . . .
Dor, Bat-pis, . . .	KANORA.	Sar-lakh-tei, TR. INDUS.
Sarbashtai, . . .	PUSHTU.	

A shrub with fine white flowers, the handsomest and one of the commonest of the Himalaya, from 4000 to 10,500 feet, up to and beyond the Indus. It resembles the English meadow-sweet, especially *S. Kamtschatka*.—*Stewart*.

SPIRIT-WORSHIP prevails throughout all the south-east of Asia, amongst the Hindus, the Buddhists, the Chinese Taoists, and followers of Confucius, in Japan with the disciples of the Sinto faith, and in all these regions among all the uncultivated aboriginal races. It is the one general cult of all these regions. When Thales taught that the whole universe is pervaded by spirits, he was proclaiming both the primitive and the existing faith of all India and China. In India worship is performed to the Bhuta, Vetalas, Pisachas, Preta, Yaksha, Vidyadhara or sylphs, and in Burma to the Nat and to Rakshasa or demons.

Ancestor-worship is a recognition of the existence of spirits freed from the body. This faith was exhibited from early times by the Egyptians; it was as a faith deeply seated, also, in Greece and Rome; it has always been and still is the popular religion of the Chinese, and it forms the belief of all the aboriginal races, and of most of the Brahmanical Hindu religionists of India. The Egyptian belief in the transmigration of the human soul into other bodies, and into the bodies of animals, was connected with it. Animal-worship dates from the earliest times in Egypt, and soon after the time of Menes (B.C. 3400) it became the established religion throughout the empire. This form of faith had evidently its origin in their belief in the identity of the principle of life in all living beings, and in the identity of the soul with life; grounded on a consciousness of moral responsibility and a belief in the personal indestructibility of the human soul. They believed that at the point of death, the deeds of this life are examined, judged, and rewarded or punished; in the latter case condemned to be degraded from human to animal life, and one regulated by brutal instincts.

In China, the spirits of deceased ancestors are periodically worshipped, and on weighty occasions are consulted. In their marriage processions, the titles of the ancestors are carried along with other displayed articles, and they are invoked to bless a newly-wedded couple. Their tombs are kept in repair. Spirits are summoned to attend to their worshippers. According to the Brahmanical Hindus, two things are indispensably necessary to the sacrificer in performing a religious ceremony,—several lighted lamps, and a bell, and the bell is sounded when the deity or spirit is supposed to be summoned.

The Kyoung-tha of Chittagong are Buddhists. Their village temples contain a small stand of bells, and an image of Buddha, which the villagers generally worship morning and evening, first ringing the bells to let him know that they are there. The Sintu temples of the sun goddess in Japan also contain a bell, intended to arouse the goddess, and to awaken her attention to the prayers of her worshippers.

Among the Tiperah of Chittagong, if a man die away from home, his relatives stretch a thread over all the intermediate streams, so that the spirit of the dead man may return to his own village; it being supposed that without assistance spirits are unable to cross running water, as Burns in his *Tam-o-Shanter* says, 'a running stream they daurna cross;' the streams are therefore bridged. A somewhat similar idea existed in Europe, and it occurs also in the Fiji Islands, and among the Kol of Nagpur. All diseases in men and in cattle are attributed to one or two causes,—the wrath of some evil spirit who has to be appeased, or the spell of some witch or sorcerer. The Circassians and some of the Chinese have also the same belief. Hence it is that insane people are in many countries regarded with so much reverence, since they are looked on as the special abode of some deity.

Hindus, in the Srad'ha ceremonial, make offerings to the spirits of their ancestors. After death, the spirit of the Hindu is conveyed by the messenger of Yama, through the air, to the place of judgment. After receiving sentence, it wanders about the earth for twelve months, as an aerial being or ghost, and then takes a body suited to its future condition, whether it ascend to the gods, or suffer in a new body, or be hurled into some hell. This is the doctrine of several Puranas; others maintain that immediately after death and judgment, the person suffers the pains of hell, and removes his sin by suffering, and then returns to the earth in some bodily form.

In the Srad'ha or funeral ceremonies of the Hindu of Gujerat, the son repeats before an image many incantations, to the following purport: Before thee, O Brahma, I perform my father's Srad'ha. He next offers to his deceased parent, on a plantain-trunk dish, seven blades of kusha, and seven of durva grass, flowers, dry rice, cloth, red paint, and a brass lamp. He next cleanses the place before him with his hands, and, scattering upon it a few blades of kusha grass, presents other offerings to his deceased father, repeating many incantations, which contain the names of the offerings, and an invitation to the deceased father to partake of them. From what remains of these offerings, the son makes two balls, the smallest of which is offered in the name of those of the family who have not received the benefits of the Srad'ha, and the other he presents to his deceased father, and then lays it on some kusha grass as before, and worships it, presenting flowers, water, etc. He now places both hands open against a lamp which is burning, as though he were warming himself; after which he prostrates himself to the sun, and presents a fee of from one rupee to five to the officiating Brahman, salutes all the Brahmans present, and makes prostrations to the saligram, which he afterwards sends into the house. All the offerings are sent

to the houses of Brahmans. The family now return home, where an entertainment is provided, both for Brahmans and others, consisting principally of sweetmeats, milk, curds, sugar, cakes, etc. The Brahmans eat in an enclosed spot, the uninvited Brahmans near the house, and the poor in the street or road. At the close of the entertainment, if the person making the Srad'ha be rich, he gives presents to all those who are not guests, whether Brahmans or the poor, and thus dismisses them. The next morning he dismisses the learned Brahmans with presents; to the most learned he gives five rupees perhaps, and to those less learned one. The Brahmans who were invited are also dismissed with presents. About one o'clock a feast is provided for the relations, who are dismissed the next morning with presents of money, cloth, etc., and on this day another dinner is provided for nearer relations. At the close of the Srad'ha a number of mendicant musicians play on certain instruments of music, and sing verses celebrating the revels of Krishna; they are often dismissed with large presents. The next day the family return to their accustomed diet; but the sons, for twelve months after the decease of the father, must refuse every gratification, and cook with their own hands, or eat what has been prepared by a wife or some near relation dwelling in the house. Gunga Govinda Singhu, a person of the writer's caste, head-servant to Mr. Warren Hastings, expended, it is said, 12,00,000 rupees at his mother's Srad'ha; and Raja Nivu Krishna of Calcutta, nearly as much in the Srad'ha for his mother. This expense was principally incurred in presents to the Brahmans, such as boats, etc., at two or three hundred rupees each; water pitchers of silver and gold, some worth a thousand, and others two thousand rupees; dishes of silver and gold, valued at one to five hundred rupees. At the time of bathing, the person who will perform the Srad'ha purifies himself by putting water, seeds, fruits, etc., in parts of the trunks of four plantain trees, repeating incantations. He sends some of this water home to purify the family.

The monthly Srad'ha for the first year after the death of the parent, is upon a very small scale, and the expense is from ten rupees to twelve annas. Besides these, there are other Srad'has for deceased ancestors, as in every month at the total wane of the moon; on the last fifteen, or ten, or five days of the moon in the month Bhadra; once during the first fifteen days of the moon in Ugrahayunu; and again in the same month, in Poushu and Maghu, on the eighth of the wane of the moon; in Voishakhu and Shrayunu, on any of the first fifteen days of the moon. At some of these times all Hindus perform this ceremony; at other times only a few persons. The expense is trifling, as scarcely any persons are entertained at them. In this Srad'ha the flesh of cows was formerly offered in sacrifice. In the Kali-yogu this is forbidden, and that of deer or goats is substituted; herbs, bread, and barley are used, as also fresh rain water.

Mr. Forbes in the *Ramala* (p. 378) says, The Bhut and Pret are said to reside, at the place where funeral piles are erected, in trees which are not used for sacrificial purposes, such as the tamarind and the acacia, in desert places, at the spot where a death has occurred, or at cross-

roads, for which reason people set at these places food for the use of the Bhut. He is most at a loss for water to drink. The pipe of his throat is, it is said, the size of the eye of a needle, and he is continually thirsty enough to drink twelve gallons of water. The watchmen of Wuroun Dev, however, are stationed wherever there is water, to prevent the Bhut from drinking, and their thirst is therefore as continual as it is intense. The Bhut feed upon all kinds of refuse. The goblin of the best class, he, that is to say, whose funeral ceremonies have been duly performed, but who has been debarred from liberation by his own intense affection for earthly objects, is called a Poorwuj Dev, and resides in his own house or in a sacred fig tree. The Poorwuj Dev, like the Etruscan Lar, or the Grecian hero, is regarded as hovering about his former abode, averting dangers from the inhabitants, and bestowing blessings upon them. He frequently appears in the character of a serpent, and is then treated with great respect by the inmates of the house near which he resides. It is a common belief in Gujerat that serpents are always to be found wherever a hoard is buried, and that these are the Bhuts of the deceased owners who have remained upon earth from affection to their wealth. The Arabian Jin also frequents cross-roads, and the fairies of the Scottish Lowlands carry bows made of the ribs of a man buried where three lairds' lands meet, as in 'A Midsummer Night's Dream' (Act. iii. Sc. 2):—

'Damned spirits all,
That in cross-ways and floods have burial.'

Desert places, in Gujerat, correspond exactly with the dry places (*αυυδραν τοπων*) assigned to the evil spirits in Matthew xii. 43, Luke xi. 24. And all eastern races believe them to be the resort of evil spirits. In Gujerat the Bhut and Pret can take possession of a corpse, and speak through its mouth; they exhibit themselves in the form which they possessed when living; they enter into a living man, and cause him to speak as they please; sometimes they afflict him with fever, or various other diseases; sometimes they assume the forms of animals, and frighten people by suddenly vanishing in a flash of fire; sometimes, remaining invisible, they speak in whispers. A Bhut has been known to come to fisticuffs with a man, and to carry a man off and set him down in a distant place. It is even said that women are sometimes found with child by Bhuts.

The Jain Shastras teach a different doctrine in regard to spirits from that which is taught by the Hindu Puranas. They assert that there are eight kinds of Vyuntur Dev, and eight of Wan-Vyuntur Dev, who reside below the earth. Each of these has two Indra, or sovereigns, ruling respectively the northern and southern regions, and who are in colour black, white, or blue. The Vyuntur and Wan-Vyuntur Dev appear upon earth, where they possess the bodies of men, exhibit themselves in various shapes, and perform many strange feats, whence their common name of Kutohulee (or surprising) Dev. Below them reside the Bhuvunputi Dev, who also sometimes appear on earth. Below them again are the Narkina or infernal spirits. Above this earth, in the atmosphere, five kinds of Dev of splendour reside,—the sun, moon, stars, and others. Above them, in twelve Dev-Loka, the Dev who ride in

chariots dwell; these, sometimes drawn by their own desire, or compelled by charms, appear in the world, but they do harm to no one. Above them are nine classes of Grivek, and five of Unootur Vimani. They are of great power, and never visit the earth. Men who have lived a life of austerity and righteousness are born again in these classes of upper or lower Dev, but the sinner is not born in them. In olden times, a man who had performed the rite of Uthum by fasting for three days, acquired the power of calling the Dev to him, but now, it is said, these Dev never visit the earth at any one's call.

In Gujerat, when people wish to prevent the removal of a jungle tree, they paint a trident upon it with vermilion, or, if that be inconvenient, they collect a number of stones and throw them down at the root of the tree. Whoever, after this, passes by, is sure to add a stone or two to the heap, believing the place to be the residence of a Bhut. If the place be one where stones are not easily procurable, a bit of old rag is thrown so as to adhere to the tree, and every one who passes by follows the example once set. They call the spot the 'Rag-uncle's.' In places where trees are scarce, these uncles are very common, and people are much annoyed with the dread of touching them. The name uncle is given to the Bhut by women as a term of respect. Men are less superstitious. Similarly, whenever in any place there is a hillock or mound upon which a few stones have been piled one above the other, every passer-by considers himself bound to add a stone to the heap, considering that the spot is the residence of some Dev, and that if any one raise a little temple there, his house will flourish. Such monuments are also set up in places where a person has been slain or wounded. Cairns of this kind are frequently connected with the dead,—

'Many a cairn's grey pyramid,
Where urns of mighty chiefs lie hid.

The Bhut-bali of the Hindus is an offering to evil spirits, ghosts. On the 14th of the dark half of the month Aswin, the Bhuta Chaturdasi offerings are made to evil spirits, and the Bhuta devata is a spirit worshipped as a deity.

As an instance of the Hindu belief in the powers of demons, Col. Tod tells us that Udi Singh died thirteen years after his inauguration on the cushion of Joda, and thirty-three years after the death of Maldeo. About A.D. 1645, when he was returning home from court, he beheld a girl whom he determined to have. But she was the daughter of a Brahman, an Aya-Punti, or votary of Aya-Mata, whose shrine is at Bai-Bhilara. These sectarians of Maru, he says, are very different from the abstinent Brahmans of Bengal, eat flesh, drink wine, and share in all the common enjoyments of life with the martial spirits around them. And as there was no other course by which the father could save her from pollution but by her death, on that he resolved. He dug a sacrificial pit, and, having slain his daughter, cut her into fragments, and mingling therewith pieces of flesh from his own person, made the homa or burnt sacrifice to Aya-Mata, and as the smoke and flames ascended, he pronounced an imprecation on the raja: 'Let peace be a stranger to him! and in three paha,

three days and three years, let me have revenge! Then exclaiming, 'My future dwelling is the Dabi Baoril' sprang into the flaming pit. The horrid tale was related to the raja, whose imagination was haunted by the shade of the Brahman, and he expired at the assigned period, a prey to unceasing remorse.

Up to the close of the 15th century, it was customary in England to place food for demons. In the dialogue of Dives and Pauper, printed by Richard Pynson in 1493, among the superstitions then in use at the beginning of the year, the following is mentioned:—"Alle that take hede to dysnal dayes, or use nyce observances in the newe moone, or in the new yeere, as setting of mete or drynke by night on the benche to fede alholde or gobelyn." So in British India to the present day, with Hindus, Chitapinda or funeral cakes are offered at the pile, at the time of burning the body. On the fourth day after decease, Chaturtha-pinda, funeral cakes, are again offered. On the 13th day after decease, the pret, or newly-embodied spirit, is compelled by the emissaries of Hades to set forth on his journey towards Yampur. Its attendants aggravate the miseries of the wicked soul by their threats and upbraidings. They cry to the pret, 'Come quick, evil one! We will carry you to Yama's door; we will cast you into Kumbheepak, or some other hell!'

In the south of India, spirits of the air are numerous: celestial vestals, which frequent cool shades and limpid streams, help the sick, succour women in travail, guide the benighted traveller who has lost his way, shower blessings and flowers on happily married couples. The village Kannimar, or virgins, as they are styled in ordinary country parlance, are patrons of the village lassie afflicted with the tender passion, and watch with a motherly interest the progress of steadfast honourable loves. There is nothing which they hate so intensely as the violation of matrimonial vows, or the infringement of maidenly honour. Rude statues of potter's work representing these champions of virtue, may be seen invariably under some pleasant shade, by the side of a rippling rivulet or the placid surface of the village tank. When the sun is at its greatest height, and man and beast seek some friendly shelter, these fair celestials, screened from profane mortal sight, quietly perform their ablutions in the tank or brook close by, divesting themselves of their flowing ethereal robes. Their appearance to mortals in bodily form always portends something extremely good or evil; but as they are naturally inclined to acts of kindness and mercy, such interviews prove, in the majority of cases, harbingers of prosperity and conjugal felicity. Instances are not wanting of these sylvan beauties, through forgetfulness to bind the wood with their magic spell, allowing themselves to be surprised by the strolling cowherd ere they have risen from their midday bath. Every year, as the husbandman sows his grain after the precursory showers of the rainy season, he vows to set apart so much, a kalam (12 marcals), as a thank-offering, if the out-turn should prove as abundant as he prayed for. True to a farthing, the sale-proceeds of the virgins' share is religiously laid by, to be made use of a month or two after the harvest, when the ryot, now at leisure, thinks of redeeming

his vow at the shrine of the celestial fair one. At the appointed time, generally at night, the whole village wends in solemn procession to the sacred grove, with banners flying and drums beating, and with all the paraphernalia of eastern worship. Rice is boiled, sheep are slain, amateur theatrials improvised, and the light hearts of the multitude rendered still lighter by potions of arrack.

Closely allied to the virgins are sundry village deities, mostly shrineless, the most important of whom are Mariamman, Bhagavati, Chakkammal, Muttaramman, and Dhwarapati.

The principal demons employed by wizards and necromancers are Karuppan, Maden, Patchee, and Irulappen. These assume any shape or colour, according to their masters' orders; and, most frequently, are carried from one place to another, attached to a magical ring, a tuft of hair, or to a baby's scull secreted in the wizard's bag. Sometimes they scour the country at night in quest of their victim, who is generally a rival magician, or one who has by word or deed incurred their master's displeasure. The demon is now a tiger, tearing the entrails of the hated victim; now an incendiary, setting houses on fire; and very rarely does it appear in monstrous human shape to kill or frighten or perform any other mischief. But if the pursued man possesses a mightier demon, and the assailants be defeated, the latter vent their baffled rage and fury on their master himself. A few demons are so voracious that they snatch up with avidity balls of rice and curry thrown into the air; some so lascivious as to have human mistresses and concubines, and even to outrage the modesty of their occasional fair worshippers. At Bodinaikenur, in the Madura district, a Chetty bought of a magician a Malabar demon, for Rs. 90, it is said; but ere a day had passed since the transfer, the undutiful spirit fell in love with his master's wife, and succeeded in its nefarious purpose.

The European will-o'-the-wisp is the Tamil Kollevai Pni. Modern science calls them phosphorated hydrogen gas rising from dead animal matter in different stages of putrefaction, but the Hindu persists in calling them devils of a most malignant type. The explosive nature of the gas, before it has time to ascend higher than one's knees, gives it the appearance of jumping. In the middle of rice-fields, by the side of stagnant pools, and especially in burial-grounds, do these spirits sing and dance and engage in their midnight orgies, to the no small terror and consternation of the simple village folks.

There are many more classes of demons, more or less violent, such as Khattarie, Bhudam, Pesasam, Mohinee or sirens, Jadamuni, and Etchilpai. Of the last two, the former occupies perhaps the highest, and the latter the lowest stratum of spirit life in the unseen world. The Jadamuni, as their name indicates, are the spirits of human sages, who, by dint of extraordinary penance, were enrolled as an inferior set of gods. At midnight, when not a sound of man, beast, or bird disturbs the calm, still air, these assume their human shape. With their crests touching the skies, and their feet a few feet above the ground, they present a sufficiently hideous aspect, rendered still more horrible by long tresses of hair floating like serpents, tongues dripping with gore, and

eyes like glaring orbs, darting forth the intensest hatred and revenge towards the poor, hapless wayfarer who may happen to cross their customary beat. The Etchilpai are hungry as wolves, and yet without the power of obtaining food; they pick up the stray grains of boiled rice in Hindu kitchens, or snatch off morsels of food from people's heads, if they happen to carry it at night.

In the south of the Madras Presidency, localized demons have exercised a mysterious power for centuries. A man dies under the slightest exceptional circumstances,—and lo! his spirit goes abroad! It lurks in yonder hut, it crouches under yonder banyan tree. It must be propitiated with plantains or fruit, rice, or sweet toddy. There is an English ghost in Tinnevely. It is the ghost of a Captain Pole, who died in the storming of the Travancore lines early in the nineteenth century. Mortally wounded, and retreating to the northward, he was left behind by his servants, and he breathed his last near a village in which, latterly, a mission of the C.M.S. has been established, and which is called Gospel Town, Suviseshapuram. After his death, he was deified by the simple instincts of the neighbouring Shanars. He has a rude hut to his honour; and the offerings which appease him are brandy and cheroots. He may be invoked. His opinion may be elicited.

Sir Bartle Frere accidentally found an order in existence at Government House, Dapurie, handed down by non-commissioned officers, for the native sentry on guard to present arms if a cat or dog, jackal or goat, entered or left the house or crossed near his beat during certain hours of the night, because it was the ghost of a former governor who was still remembered as one of the best and kindest of men. The raja of Wanparty, one of the Reddi race who have founded small principalities along the banks of the Kistna river, died in 1868 at Hyderabad. He had led a turbulent life, and retained to the last much of the spirit of his youth. At the close of that year, an outbreak of cholera occurred in that neighbourhood, which the people attributed to the spirit of Wanparty, and they made a clay image of him, riding on an elephant, and placed near him the figure of a Bin-jarni, and worshipped all with the great Mahabala sacrifice.

The superstitious fears of the Hindus extend to innumerable objects: they dread the wrath of the following inviolable beings,—the messengers of Yama, bhuts, preta, pisacha, dakinee, yoginee, hakinee, yukhahu, rakshasa, shunkinee, gooma, brumhu-doitya, aluya, etc. They also fear the cries of the following animals, at particular times, and in certain situations, viz. jackals, owls, crows, cats, asses, vultures, dogs, lizards, etc. They also dread different sights in the air, and many kinds of dreams.

King James I. in the preface to his *Demonology*, says, 'They (magicians) can suddenly cause to be brought unto them all kinds of dainty dishes by their familiar spirit, since as a thief he delights to steal, and as a spirit he can subtly and suddenly enough transport the same.' To obtain such a spirit for a familiar, the two following receipts were presented by a Hindu of the Peninsular as having been tried and found efficacious:—

In the dense darkness, at the time of new moon,

let the person who would obtain a devil, walk naked into a lake, and, standing in the water up to his middle, repeat the mantra (a charm previously taught him by some proficient) the appointed number of times, taking care of his reckoning by casting into the water a pebble, a jasmine flower, or a pepper-corn, from a collection which he has previously counted and brought with him. At every repetition of the mantra, let him give himself a stroke with a rattan. The charm is to be repeated boldly, and without mistake, or the devil will certainly kill the charmer.

Or, go to the temple sacred to the demon whose services are required. Having closed all avenues by which so subtle a subject may escape, stand on the threshold of the temple, and boldly conquer the demon by a powerful mantra. Then you must raise the pedestal on which the image of the demon is placed, and take from under it the money placed there when the image was inaugurated. Instead of this money place there a copper plate, on which you have engraved a kolam (magical inscription). From that day the demon becomes your slave, and will perform for you any service, or bring you whatever you may require. Some say the spirit must, when caught, be confined in a little golden box, called a Simil. Examination of a manuscript book of spells, kolams, and cabalistic figures, collected by a Tamil man of low caste, shows that very many of the incantations commence with the sacred syllable Om! or the mantra 'Nama Sivayah,' salutation to Siva. The invocation is never addressed to either Brahma or Vishnu. The following is a specimen of a charm given by Mr. Murdoch:—

'Om! Adoration to the supreme power,
Kali ratri, black night!
To whom the bloody flesh of man is dear;
Whose very form is fate and death;
Seize, seize on the life of such a one.
Drink blood! drink blood!
Devour flesh! devour flesh!
Make lifeless! make lifeless.

Hum! Phut!'

The highest Brahman authorities have taught that the case of the devils themselves is not altogether hopeless. There is a well-known aphorism in the Sankhya, which is illustrated by the story of a devil (Pisacha), who was enlightened and obtained felicity by overhearing the religious discourse between Krishna and Arjuna. Burns, it will be remembered, expresses a like hope for the 'puir deil'—

'But fare ye well, Auld Nickie ben!
O wad ye tak' a thought and men!
Ye sibline might—I dinna ken—

Still ha'e a stake;
I'm wae to think upon your den,
Ev'n for your sake.'

With the Burmese, the six lower heavens are occupied by Nat or Dewa, where good kings and virtuous people reside, and the Tha gyah min, or king of the Nat, visits the earth for three days at the beginning of the Burman year, 9th to 12th April. Perfectly distinct from these are the Nats of the house, the water, the air, and the forest. The Nats are everywhere worshipped, but this is denounced by devout Buddhists. With the Karen all nature is filled with Nats; and the Ka-Chin provide the Nat with pipes of spirit, sacrificed animals, hatchets, spears, bows and arrows, which

the Nats may use at their pleasure. In all Burma, especially among the Talaing or Mon (Mohu), and in the neighbourhood of the Geniolatric tribes, at the extremity of every village, the Yua-sohn, there is a Nat-sin, a shrine of every dimension, for the Nats of the neighbourhood, at which lamps, water-pots, and food are offered, with figures of Shway Pyin-gyi, Shway Pyin-nge, the Nyi-daw, etc.

The Koh saung Nata, twelve in number, six good and six bad, six male and six female, provide a genius for each person. Min mahgyi is the guardian Nat of the house, and usually takes up his abode on the top of a house post, a pot of water being kept in the verandah for his use. Each village also has a guardian Nat. None of the lower class of Talaing would think of eating a morsel without first holding up his platter in the air and praying to the village Nat.

The spirit Mounng Iwn Gyi is greatly feared. He lives in water, and causes death. They believe that persons who are executed, or have met with a violent death, become Nats, and haunt the places where they were killed. Every district has a Nat thoo-nge or spirit woman, called Nat-mehmma, who is consulted, and who dances at the Nat feasts.

With the Burmese, on the foundation of a new capital, there are always a certain number of people buried alive. They are supposed to become Nat-thehn, that their spirits haunt the place where they were put to death, and attack all persons approaching with malevolent intentions. In 1860, when the foundations of Mandalay city wall were laid, fifty-two persons were entombed, three under each of the twelve city gates, one under each of the palace gates and at the corners of the timber stockade, and four under the throne itself. By 1880 the virtue had largely evaporated, and it was resolved to replace them by six hundred victims; but the outcry in Europe restrained the king, and only a small number were sacrificed.

The Muhammadans of the S.E. of Asia believe in spirits, and in the science of dawot or exorcism, to which they have recourse to command the presence of genii or demons who, when it is required of them, cause anything to take place. The genii spirits are believed to reside in the lowest firmament, and possess the power of rendering themselves visible to human beings in any form they please. The evil spirits are called shaitan. The spirits of all Muhammadans are supposed to rest in the graves till the resurrection; being laid in the grave, the two angels on Nakir and Mankir interrogate the departed as to his life. Dogs, women, and horses are not allowed inside their burial-grounds. Annually, oblations, called Ooroos, are offered in the name of Mahomed, or in the names of the Pir or spiritual guides, or in the names of the Wali or saint. Khajah Khizr, a Muhammadan saint, often appears to travellers in different guises, but generally as an old man. The people of Sind believe in the Rijal-ul-ghaib; in Jin or genii; in Bhut, ghosts or disembodied spirits; in Ghul, or demons of the wilderness; in Pari, fairies; and in Dev, Rakas, and Pap, powerful fiends, corresponding with the Arab 'Marid.' The Dakini is the same as the witch of Europe, usually an old woman, decrepit, poor, of humble family, and angry disposition. She has the power of turning men into beasts, killing cattle, flying to any distance on a tree by reciting

a mand (magical formula), and mounting a hyæna. The Bandh and Mann are frightful beings, half-female, half-hellish. They live in the hills and jungles, where they frequently appear to travellers, are covered with hair like bears, have large pendulous lips, and live on fruits and herbs. The Shir is a creature of Satanic nature. He, generally speaking, appears like a low-caste man, very dark, tall, and frightful; sometimes as a headless body. He lives in the makām or burial-ground, where he lights fires, and amuses himself by throwing the brands about, frightening folk by vociferating their proper names, or pursuing them in the form of some beast. Hence their fear of approaching a burial-ground by night. The shaitan of Sind is only seen by learned and religious men; to them he appears as a young man of white complexion and handsome form, which he can change at discretion. In Sind, popular superstition has created the Marhun Machhi (mermen and mermaids). The science of Osteomancy is the Ilm-i-Aktaf (knowledge of the shoulder-blades) of the pagan Arabs and some Bedouin tribes of the present day, the Ilm-i-Shanch of the Persians and Afghans, and is known to the shepherd Sindi and Baluchi by the name of Phannia-jofannu. The instrument of divination is the scapula of a sheep divested of its muscles and integuments, the spear-bane of the Scotch. The Ilm-i-Kūf, or palmistry, is common among Muslims and Hindus, but better known in Cutch than in Sind. The Sona-jo-Ilm, or knowledge of omens, taken from the flight of birds, the appearance of beasts, and other similar phenomena, closely resembles the art of the Indian Thugs. The Baluchi are considered great adepts in this branch of the occult sciences, and the Sindi have a short treatise upon the subject called Sungun-namo.—*Rajasthan*, ii. p. 662; *Burton's Scinde*; *Ward's Hindoos*, ii. p. 140; *Forbes' Rasamala*, ii. 378; *Lubbock's Civilisation*; *The Burman*.

SPITI is a subdivision of the Kangra district of the Panjab; area, 2100 square miles, consisting of an outlying Tibetan valley among the external ranges of the Himalaya, between lat. 31° 42' and 32° 58' N., and long. 77° 21' and 78° 32' E.; its apex lies at the point of convergence of the Kanzam ridge and the outer Himalayas, while the transverse ridge of Manirang, dividing the Kangra district from Bashahr State, forms its base. The higher peaks of the main chain rise 20,000 to 25,000 feet above sea-level; and even the villages stand at from 12,000 to 14,000 feet.

The population of Spiti in 1868 amounted to only 3024 persons, almost exclusively of Tibetan origin. The people belong to a kindred race with those of Lahoul. The language is almost identical, but the customs and religious institutions are not analogous. Spiti is approached from British territories and Kanawar by six different routes, and from Ladakh and Tartary by three routes, through the two chains of mountains. Many of the passes vary from 14,000 to 18,000 feet. The exports are wool, borax, salt, and blankets; and the imports are articles from the plains, and a great deal of iron. The resources of the land are locked up for more than six months in the rigorous winter. The inhabitants are obliged to repair during this inclement season to the lower and more genial latitudes in the valley of the Sutlej. The produce of the land in

Lahoul and Spiti does not suffice for the wants of the population. The people of Lahoul import grain from Kulu, and the valley of the Sutlej supplies the additional demands in Spiti. The barley of Spiti is hexagonal or six-sided, and the grain large and succulent. A liquor, called chang, is distilled in Spiti from barley, and sold at 30 puttahs for the rupee. A puttah is a liquid measure of 2 seers = $\frac{2}{3}$ of a pukka seer. They consume large quantities. Chang can be made from other grains besides barley; that made from rice is superior. The wealthier classes in Spiti, etc., use a weak spirit, called arrack, which is distilled from rice. When a person dies, the body is buried or burnt, or thrown into the river, or cut into small pieces and burnt; admonitions are made over the body to the departed spirit, such as, Do not trouble yourself, you cannot enter it (meaning the dead body); in summer it quickly becomes corrupt, in winter it freezes, and is too cold for you.—*Powell's Handbook; Gerrard's Kanawar*, p. 112; *Imp. Gaz.*

SPONDIACEÆ, the hog-plum tribe of plants, comprising species of the genera *Spondias* and *Poupartia*. They are natives of the East and West Indies, the Society Islands, and the Isle of Bourbon. The fruit of some of the species is edible.

SPONDIAS ACUMINATA. *Roxb.* Ambut, DUKH. A most elegant middle-sized tree, with shining leaves. It grows on the western side of India, in all the coast and inland forests. The wood in its natural state is not of any value, but could be creosoted with advantage.—*Roxb.; Gibson; Riddell.*

SPONDIAS DULCIS, *G. Foster*, of the South Sea Islands, is a noble tree, growing to 60 feet in height. Its fruit, the 'rewa,' weighs over 1 lb., and is of delicious flavour.

SPONDIAS MANGIFERA. *Pers.*

<i>Spondias amara</i> , <i>Lam.</i>	<i>Mangifera pinnata</i> , <i>Kern.</i>
<i>S. amra</i> , <i>Ham.</i>	<i>Poupartia mangifera</i> , <i>Bl.</i>
<i>S. paniculata</i> , <i>Roxb.</i>	Condondong of Rumph.
<i>Evia amara</i> , <i>Comm.</i>	
Ran-am, . . . BOMBAY.	Amratata, Amra, SANSK.
Ky-wæ, . . . BURM.	Emba-rella, . . . SINGH.
Bahamb, . . . CHENAB.	Kat-mavu, . . . TAM.
Ngan-mo-leh, . . . CHIN.	Kat maam maram, . . .
Yu-kan tze, . . .	Mirri-mangi maram, . . .
Jangli am, . . . DUKH.	Puli-ile, . . .
Amra, . . . HIND.	Adavi mamidi, . . . TEL.
Kat ambalam, . . .	MALEAL.

This large tree grows in various parts of India, Ceylon, China, and Burma. The wood is soft, and of little use except for firewood. From wounds made into the bark, in the beginning of the hot season, very large quantities of a transparent juice issue, which soon hardens into a mild insipid gum, like gum-arabic. The fruit got its name from its resemblance to a mango, but it is harsh and little deserving of notice; on the Malabar coast, the root is considered as an emmenagogue; the bark is supposed to be of use in dysenteric affections, and a decoction of the wood serviceable in gonorrhoea. The Karens have a tradition that in those golden days when God dwelt with men, all nations came before him on a certain day, each with an offering from the fruits of their land, and the Karens selected the hog-plum for their oblation, which gave such offence, that God cursed the Karen nation, and placed it lowest among all the nations by whom they are surrounded. The fruit is eaten raw

when ripe, and before ripe is pickled, put into curries, made into tarts, etc. The fruit when fully ripe is of a pale-yellow colour, of a pleasant flavour, but a little too acid. The sour leaves are used in chatnis. In China, juice of the fruit enters into several nostrums for the hair, the glory of the Chinese men and women.—*Roxb.*

SPONGE.

Isfanj, Isfanjah, . . . ARAB.	Mua-badul, . . . HIND.
Tsok-tea-ya, . . . BURM.	Spugna, . . . IT.
Hai-jung, . . . CHIN.	Uniwatta, . . . JAP.
Shwui-pau-myen, . . .	Haliapongia, . . . LAT.
Ling-siau-hwa, . . .	Bunga-karang, . . . MALAY.
Svamp, . . . DAN. SW.	Abar-murdah, . . . PERS.
Spona, . . . DUT.	Esponja, . . . POL., SP.
Esponge, . . . FR.	Sunghor, . . . TURK.
Schwamm, . . . GER.	

There are several genera of sponge animals, which naturalists arrange under the class Porifera, as *Spongia*, *Spongilla*, *Halichondria*. There are many species both in fresh and in sea waters, but that used for economic purposes is from *Spongia officinalis*, *L.*, of the Mediterranean, known as Turkey sponge, and the *W. India* or *Bahama* sponge, from *Spongia* *usta*.

The substance used as sponge is traversed by many canals, the pores of which open out on the surface. The canals, in life, are lined with a soft gelatinous matter up to the opening of the pores, and the pores are kept open by numerous siliceous or calcareous spicula, needle-like bodies. Whilst the animal is alive, the water, entering into the sponge by the pores, circulates in the canals, and is finally expelled through the larger orifices.

The sponges used in Europe are known in commerce as the fine Syrian, fine Archipelago, fine hard or Grecian, white sponge, gelatine sponge, brown sponge of Barbary, also called Marseilles or Turkey sponge, the *Spongia communis* of naturalists, which is fished on the coast of Tunis, and used for cleaning rooms, and the sponge of Salonicæ.

Turkey sponge, the *Spongia officinalis* of Linnaeus, of the natural order Spongiæ, is the peculiar skeleton, whole, and is produced in southern and eastern seas, though imported into Great Britain from Turkey. The imports are in cases, each containing about 500 sponges of various sizes, averaging in value about 35s. per pound. The finer kind, suitable for toilet use, is found in the Levant,—the best on the coast of Northern Syria, near Tripoli, and secondary qualities among the Greek isles. These are either globular or of a cup-like form, with fine pores, and are not easily torn. They are got by divers, who plunge from a boat many fathoms down, with a heavy stone tied to a rope for sinking; the man snatches the sponges, puts them into a net fastened to his waist, and is then hauled up. Some of the Greeks, instead of diving, throw short harpoons attached to a cord, having first spied their prey at the bottom through a tin tube with a glass bottom immersed below the surface waves.

The sponges of the coasts of Asia Minor and Syria are dived for by the people of Calymnos, Chali, Syme, and other islands near Rhodes, from May to October. In May a little fleet of caïques sets sail from Calymnos, manned by the greater part of the able-bodied of the male population, and they return in the autumn, and sell to their richer townsmen who trade in sponges, and these are despatched to Trieste, Syria, or Smyrna. A

SPONGE.

diver can descend to 30 fathoms, and remain for three minutes. A caustic fluid at the root of the sponge is apt to cause ulcers. They are cleaned and dried in the fields, and then filled with sand to ensure equality of sales. Numerous species are known, with soft porous bodies, traversed by tortuous canals, but the official sponge is imported from the Mediterranean and Red Sea; some of the coarser kinds from the West Indies. Those of the British seas would probably answer equally well for burning. When collected, sponge contains numerous small fragments of corals and minute shells; from these it must be freed before it can be used. Sponge is composed of gelatine and coagulated albumen. When burnt, its ashes give carbon and some silex, carbonate and phosphate of lime, carbonate of soda, chloride and iodide of sodium, bromide of magnesium, with a little oxide of iron.

Coarse, soft, flat sponges, with large pores and great orifices in them, come from the Bahamas and Florida. A small schooner, towing several little boats, with two men in each, passes slowly over the sponge ground. One man sculls, the other squats, hanging over the boat's side, with his head in a bucket, the bottom of which is of glass. Through this he looks down into the deep, still water, and sees the sponges lying 20 or 30 feet below. Then, assisted by the other man, he aims a stroke with a three-pronged hooking-fork at the end of a long pole. The sponge is grappled and lifted into the boat. When the boats have loaded the vessel, the sponges lying on board, covered with a gelatinous mass, from which oozes a slime of disgusting odour, give forth a very disagreeable smell; but the animal soon dies. The sponges are laid out in the sand that this putrefying outer substance may rot off, after which they are roughly cleaned and scraped, pressed, and packed in bales. Much further washing is required, and a chemical process of bleaching. American sponges being so inferior to those of the Mediterranean, it has been sought to utilize them for the stuffing of cushions and mattresses, or for the felting of hats and winter coats, but with poor success.

Sponge is gathered from the rocks of Vizagapatam at about 12 feet below the sea.

Assistant-Surgeon Carter, of the Bombay army, described four species of fresh-water sponges in the tanks of Bombay. They are attached to floating bodies, or on the inclined and under surfaces of the rocks, never at the bottom, and sometimes so high up as to be covered with water only for three or four months.

In the Sea of Japan, a very remarkable sponge (the *Hyalonema*) is met with. It is a bundle of spicules, like threads of glass, which seem artificially tied together, and on the surface of which is invariably found a polyp of the genus *Polythoa*.

The remarkable hooked, branched, or star-like spiculæ in many sponges are believed to have the function chiefly of rendering them unpalatable to other creatures.

The sponge-making animal, like some other zoophytes, can be multiplied by cutting it in pieces, leaving each piece to live and grow by itself. It is stated by Dr. Oscar Schmidt, of the University of Gratz, that in three years, at a cost of £8, 8s., 4000 sponges can be raised, worth £16,

SPRINGS.

which would seem to be a profitable industry.—*Phipson; Carter*. See Venus Glass Flower.

SPONIA ORIENTALIS. Rozb.

Papyrus spherica, Kämpf. | *Celtis orientalis, Rozb.*
Chicoolee, BENG. | Morali obettu, . . . TEL.
Jeebun, " | Budu manu, "

A small erect tree of Ceylon, the Coromandel coast, common along the foot of the ghats, occurring in the Kenneri forests, Salsette, in Nepal, Bengal, Sylhet, and Assam. The under bark consists of numerous reticulated fibres, and forms a natural cloth used by the Garo race, and its leaves are used for polishing horn.—*Rozb.; Voigt; Flor. Andh.; Mr. W. Jacob*.

SPONIA POLITORIA. *Planch.* A plant of the Darjiling Terai, Sikkim, Oudh, Salt Range. Wood used for charcoal, leaves to polish wood and horn.

SPONIA WIGHTII. *Planch.*

Kanghi . . . of AMBALA. | Mini, TAN.
Marni of BEAS. | Gadda nelli, TEL.

This tree is common throughout the Presidency of Madras, and is occasionally planted by coffee planters for shade because of its rapid growth; it ascends the mountains to above 6000 feet elevation. The wood is soft and white, but makes about the best charcoal for gunpowder. This tree springs up in all places where heavy, moist forests are cleared away for coffee or other purposes, although there may not be a plant of it within miles. It occurs as a small tree very sparingly in the Siwalik tract up to the Beas, and occurs also in the Salt Range occasionally west of the Jumna; in some parts of India, its exceedingly harsh, rough leaves are employed to polish wood and horn.—*Stewart; Powell; Bed. Fl. Sylr.*
SPOOKDIER, DUTCH, the ghost animal of Menado, is provided with sharp-nailed toes on its four legs for climbing in trees. It is about eight inches high, covered with greyish hair; has large, flabby ears, piercing eyes, and a long, thin tail, on which the hair stands out at right angles.

SPRENGER, ALOYS, M.D., a medical officer of the Bengal army; a philologist; a native of the Tyrol, and born about the year 1813. He arrived in Calcutta in September 1843, and in 1845 was appointed Principal of the Delhi College. He translated Masudi's *Meadows of Gold*, edited Abd-ur-Razaq's *Dictionary of Sufi Terms*, and superintended the translation into Urdu and printing of about thirty books of science and history. In 1848-49 he drew up a catalogue of the library of the king of Oudh, about 10,000 MSS. volumes of Arabic, Persian, Pushtu, and Hindustani. He wrote an incomplete life of Mahomed, 1851; a *Dictionary of Arabic Technical Terms*; *Ibn Hajur's Biography of Persons who knew Mahomed*; and other works.

SPRINGS. The Aryan Hindu and the non-Aryan tribes who occupy British India, continue to worship springs and fountains, and other natural objects. This has been a custom with many races. The fountain of Egeria, the Fontinalia Romana, the *Aquæ ferentina*, and the sacred wood where the *Feræ Latinae* were celebrated, were under the especial protection of some divinity. *Pausanias* says that at Phocis in Achaia, there was a fountain called Hama, consecrated to *Hermes*, near which thirty enormous straight stones had been erected at a very remote period, when, instead of images, the Greeks adored blocks of stone. Such was also the religion of pagan Ireland.

SPRINGS.

There are ten hot-water ponds within two miles of the old town of Ataran, with a temperature of 130° Fahrenheit. At the forks of the Tenasserim about four miles below Matak, are hot springs highly charged with sulphuretted hydrogen gas.

On the margin of the granite range east of Tavoy are many saline thermal springs, with temperature up to 196°.

A mineral spring is described in the Saugor taluk, Nuggur division of Mysore.

Around Hazaribagh, for about 180 miles in every direction, many places are literally teeming with hot springs.

Other springs, several of them sulphurous, others thermal, occur in the Salt Range; at the base of the Himalaya; in Northern and Western Sind; in Gujerat; in the valley of the Nerbadda, and in the Konkan.

There is a sulphurous spring at Chaunch near the terminus of the Grand Trunk Road; and three miles off a much more abundant and hotter one, called Tantloie, on the banks of the Damuda; also hot springs at Lakarakunda and at Kisbun, Bun, Buklesir, and Sita Kund at Monghir.

The Zungau mineral springs, beyond Kanawar, are impregnated with salt, alum, and iron.

The Koop or mud volcanoes of Rama Chandra are at Hinglay, west of Kurachee, and others at Cheduba. There are hot springs at Pir Muggen, others at the Lukkee pass, and the Garm-ab is in the Bolan pass.

1. Sulphuretted Mineral Springs.

Malacca, thermal.—*Ward*.
Spring, 27 miles N. from Hazaribagh, thermal.—*H. H. Wilson*.

Bum Buklesir, thermal, 13 miles W. and S. of Suri in Birbhum.—*Sherwill*.

Jorya Buri, not far from Chaunch, near meeting of Barakur and Damuda rivers, thermal.—*Oldham*.

Tantloie, near it, on other side of Damuda, thermal.

Tata Pani, Sirguja, Chutia Nagpur, thermal.—*Breton*.

Two springs at N. base of Mahadeo mountains, Nerbadda, thermal.—*Spilsbury*.

Well at Gwalior.—*Col. Tod*.

Below Landour.—*Murray*.

At Sonah, 30 miles from Delhi, thermal.—*Ludlow*.

At Lousah, in Nurpur.—*Marcadieu*.

At Bishisht in Kullu, thermal.—*Gerard*.

In the Bukh Ravine, Salt Range, thermal.—*Flemg*.

At Jubba in Salt Ranges, 10 miles E. of Indus.—*Flemg*.

Chihali pass, W. of Indus, below Kalibagh.—*Flemg*.

Mittah, near Esau Kail, W. bank of Indus.—*Flemg*.

Pir Muggen and Gazi Pir in Sind, thermal.—*Mayor*.

Baker and Lieut. M'Lagan.

At Lukkee pass, near Schwan, thermal.—*Gibson*.

Within high-water mark in Kattyawar.—*Sandwith*.

Temple of Somnath in Gujerat.—*Col. Tod*.

Arowlee in the Konkan, thermal.—*Duncan*.

At Bhadrachellum on the Godavery, thermal.—*Heine*.

At Chittur, slightly thermal.—*Hardy*.

2. Saline.

Several springs at Surajkund near Belcuppi and Barkutta, Grand Trunk Road, thermal.—*Sherwill*.
Hooker.

Teval in Kangra district.—*Marcadieu*.

Mukhdur Rashid in Multan.—*Edgeworth*.

Shahpur near Jung.—*Neelmadub Mookerjee*.

Lahard Khad on Sutlej above Rupur.—*Wade*.

Universal throughout Salt Range.—*Fleming*.

Sumundur and Kullur khar lakes in Salt Range?—*Fleming*.

Duzikustuck, Sind, thermal. *Vicary*.

Ooch, Sind.—*Vicary*.

Lukkee pass.—*Gibson*.

Well at Banda?—*Prinscp*.

Near Hyderabad Dekhan.—*Vogey*.

SQUALIDÆ.

a. Brine.

Sambhar lake.

Many springs in Salt Range.—*Fleming*.

Old spring near Jeypore in Assam.

Brine springs in Bikanir and Jeyaulmir.—*Irvine*.

Cachar Hills.

Pir Muggen, Sind.—*Baker and M'Lagan*.

b. Alkaline.

Lunar lake, 50 miles from Jaulnah.—*Malcolmson*.

At Mean Mir, and others in Panjab.—*Baddely*.

Kairi water or soda-water wells in Ajmir.—*Irvine*.

Well at Jowala Mukhi?—*Marcadieu*.

c. Aluminous.

Well below Landour.—*Murray*.

d. Iodine.

Traces of iodine in well at Jowala Mukhi and Arlun in Kangra.—*Marcadieu*.

Traces of iodine in well at Tunga Bara, near Hurripur.—*Marcadieu*.

Strong iodide of potash well at Jowala. Mr. Marcadieu states that, though bronchocoele is very common in the district, the inhabitants of Jowala are exempt from it.—*Marcadieu*.

e. Lime.

Many in Murree Hills above Rawal Pindi.—*Fleming*.

Pith in Hala mountains, thermal.—*Vicary*.

Kye in Hala mountains, thermal.—*A. Young*.

Near Sunjabundia, Kurnool, thermal (*Newbold*), temperature decreasing.

f. Silicious.

Burrare and Bheem Bhand, Kurruckpur Hills, thermal.—*Sherwill and M'Clelland*.

3. Ambala.

Hot springs at Jumnotri, Gungootri.

Kedarnath and Badrinath in Garhwal, valley of the Sutlej.

Chalybeate at Nagconda.

SPRUCE, Dr., an eminent botanist, native of Welburn in Yorkshire, who aided Mr. Clements R. Markham, C.B., in introducing cinchona plants into British India, 1860-1865. The British Government in 1877 rewarded him with a pension of £50 a year.—*Markham*.

SPRY, HEN. H., a medical officer of the Bengal army, distinguished for his scientific attainments. Suggestions for extending the Cultivation and Introduction of Useful and Ornamental Plants, with a view to the Improvement of the Agricultural and Commercial Resources of India, Calcutta 1811.

SQUALIDÆ, a family of fishes of the section Chondropterygii, which includes the various species of sharks. The shark's body is elongated, tapering gradually from the head to the tail, or but little dilated in the middle. The male sharks are smaller, and differ externally from the females in possessing two elongated appendages, one of which is attached to the hinder edge of each of the ventral fins, the uses of which are not known. Some species of sharks bring forth their young alive, whilst others are enclosed in oblong semi-transparent horny cases, at each extremity of which are two long tendrils. These cases are frequently found on the sea-shore, and are called sea-purses, mermaids' purses, etc. They are deposited by the parent shark near the shore in the winter months. The convoluted tendrils, hanging to sea-weed or other fixed bodies, prevent the cases being washed away into deep water. Two elongated fissures, one at each end, allow the admission of sea-water; and the young fish ultimately escapes by an opening at the end near which the head is situated. For a short time the young shark continues to be nourished by the vitelline fluid contained in the capsule attached

to its body by the connecting pedicle, till, having acquired the power of taking food by the mouth, the remains of the ovum are taken up within the abdomen, as in birds and some other animals. See Sharks.

SQUILL, *Urginea maritima*, Sea Onion.

Ansul,	ARAB.	Kanda,	HIND.
Pen-lay-pa-dein,	BURM.	Scilla,	POR., LAT.
Hai-tsung,	CHIN.	Morskoi-luk,	RUS.
Solog,	DAN.	Cebolla albarrana,	SP.
Zeeajuin,	DUT.	Hafsluk,	SW.
Oignon marin, Scille, FR.		Nurri vangayum,	TAM.
Meerzwiebel,	GER.		

Squill is a perennial bulbous-rooted plant found on the shores of Spain, Portugal, north of Africa, the Levant; and one species occurs on the coasts of India. The bulbs are pear-shaped, and vary in size from that of the fist to the compass of a child's head. The root is very napeous, intensely bitter, acrimonious, and causing inflammation when rubbed on the skin. It is one of the most useful remedies in the *Materia Medica*.—*M C.; Faulkner.*

SQUILL, COUNTRY. *Scilla Indica*, *Rozb.*

Ansul, Iskeel,	ARAB.	Nurri vangayum,	TAM.
Kanda, Junglie piaz, HIND.		Nurri vunjayum,	
Peyaz-i-diashtia,	PERS.	Addivi-tella gadda, TEL.	
Nurriala,	SINGH.		

The Indian squill resembles the true squill in medicinal virtues. Farriers are in the habit of using it, in conjunction with other articles, for horses, in cases of strangury and fever. It grows in abundance in waste, sandy soils.—*Ains.*

SQUIRRELS belong to the genus *Sciurus*. The E. Indian species are—*Malabaricus*, *maximus*, *Elphinstonei*, *macrourus*, *macrourus*, *lokriah*, *barbei*, *Europæus*, *laticaudatus*, *lokriodes*, *palmarum*, *tristriatus*, *Layardi*, *sublineatus*, *McClellandii*, *elphippium*. *Sc. Layardi* eats the coffee berries; it is common in Ceylon; the pulp alone is digestible, and the coffee-beans are dropped on logs of wood and on the ground. *Sc. Tennentii* is peculiar to Ceylon. Its dimensions are large, measuring upwards of two feet from head to tail. It is distinguished from the *Sc. macrourus* by the predominant black colour of the upper surface of the body, with the exception of a rusty spot at the base of the ears.

Sciurus maximus is the Malabar squirrel. Its upper parts and external surface of the limbs are of a bright chocolate-brown colour. Length about 33 inches, of which the tail measures rather more than one-half. This richly-coloured species is the largest of the true squirrels. It haunts among palm trees, and is stated to be very fond of the milky juice of the cocoanut, as well as of the solid part of the nut. In captivity, it is tame and familiar; but it tries its teeth upon most substances that come within its power, and should be guarded against accordingly.

Sciurus macrourus, *Hodgs.*, a gigantic squirrel, abounds throughout the Burmese countries and Malayan Peninsula, and northward to the Assam Hills and those of Sikkim and Nepal. It has a pale variety in the Malay Peninsula.

Sciurus macrourus, *Forster*, the common large squirrel of the western districts of Ceylon, also met with in Travancore and other neighbouring districts of continental India, becomes extremely tame, chiefly perhaps remarkable for its singularly loud and harsh voice. Indeed, the voice would seem to be an excellent criterion of special

distinction among the *Sciuridæ*. This animal carries its tail in the same peculiar manner, curled round on one side, as is observable in *Sc. purpureus* and *Sc. bicolor*, and doubtless all others of the same group.

Sc. Elphinstonei is the red squirrel of the Western Ghat. They soon become very tame. The palm squirrel, also, *Sc. palmarum*, soon becomes very tame.

One group of the squirrels, of large size and rich colours, is peculiar to S.E. Asia as far as Borneo, some of them wherever there are large and lofty forests.

Flying squirrels are species of the genera *Pteromys* and *Sciuropterus*—

<i>Pt. magnificus</i> , <i>Hodgson</i> , S.E. Himalaya.
<i>Pt. inornatus</i> , <i>Is. Geoff.</i> , N.W. Himalaya.
<i>Pt. cineraceus</i> , <i>Blyth</i> , Burma.
<i>Pt. elegans</i> , <i>S. Muller</i> , Java.
<i>Pt. nitidus</i> , <i>Geoff.</i> , Pen. Malacca.
<i>Pt. petaurista</i> , <i>Pallas</i> , Pen. India.
<i>Pt. Philippensis</i> , <i>Gray</i> , Philippines.
<i>Sciuropterus albioniger</i> , <i>Hodgson</i> , Nepal.
<i>Sc. caniceps</i> , <i>Gray</i> , Nepal, Sikkim.
<i>Sc. simbratus</i> , <i>Gray</i> , Himalaya.
<i>Sc. fuscicapillus</i> , <i>Jerdon</i> , Travancore.
<i>Sc. villosus</i> , <i>Blyth</i> , Sikkim, Bhutan.
<i>Sc. spadiceus</i> , <i>Blyth</i> , Arakan.
<i>Sc. Phayrei</i> , <i>Blyth</i> , Pegu.
<i>Sc. genibarbis</i> , <i>Horsf.</i> , Malaya.
<i>Sc. Horsfieldii</i> , <i>Waterhouse</i> , Malaya.
<i>Sc. sagitta</i> , <i>L.</i> , Malaya.

With the flying squirrels, the skin of the flanks is extended between the fore and hind feet, forming, when expanded, a wide parachute. They have long, bony, or cartilaginous appendages to the feet, which serve to support the lateral membrane. *Pt. petaurista* lives principally on fruits; it and *Pt. inornatus* have been seen take a flight of sixty yards.—*Blyth; Jerdon; Tennent.* See *Sciuridæ*.

SRADDHA. **SANSK.** Faith. In Hindu mythology, daughter of the sage Daksha, wife of the god Dharma, and reputed mother of Kama deva, the god of love.

SRADDHA, as commonly understood, are obsequies paid by Hindus to the manes of deceased ancestors, to effect, by means of oblations, the embodying of the soul of the deceased after burning his corpse, and to raise his shade from this world (where it would else, according to the belief of the Hindus, continue to roam among demons and evil spirits) up to heaven, and then deify him, as it were, among the manes of departed ancestors. In the ceremony, food and water are offered to the deceased ancestors of the sacrificer, or to the Pitri or manes collectively. The *Preta* or *Dasa-pinda* *Srad'dha* is an offering of a ball of rice to a deceased person, by the next-of-kin, increased by one daily, for ten days. The *Adya* *Srad'dha* is the first obsequial ceremony after a person's decease. The obsequies performed monthly, on the day of the new moon, are called *Anvaharya* *Srad'dha*. The social or legal uncleanness of the Hindu is called *Asauch*, and occurs from the death of a relative or the like. The day preceding a *Srad'dha* is held as a fast-day, and called *Ativasa*. The *Ekanasi* *Srad'dha* is a presentation of offerings on the 11th day after demise. The *Masika*, or *Anvaharya*, is performed monthly for a year on the day of demise, and the *Sapinda* or *Sapindi* *Karana* on the first anniversary of a person's death. The *Abhyu dayaka* *Srad'dha*

is an offering to deceased ancestors, or to the manes collectively, on some prosperous event, as the birth of a son or the like. The proper seasons for the worship of the manes collectively are the dark fortnight or period of the moon's wane, the days called Ashtakas, or the eighth lunations of the dark fortnight of the four months of the cold weather, the summer and winter solstices, and vernal and autumnal equinoxes. The idea involved is a belief in the prolonged separate existence after death of the body of the spirit or ghost that it may hover about its former dwelling, and be gratified by offerings of food. It consists of three distinct rites,—(1) the daily Srad'dha in propitiation of the ghosts of remote ancestors (pitri); (2) the monthly Srad'dha, for immediate paternal ancestors; (3) the funeral Srad'dha, for a near kinsman, within a certain period after death.—*Coleman*, p. 162; *Moor*, p. 75; *Wilson's Glossary*. See Hindu; Shraddha; Spirit-Worship.

SRAMA, the performance of asceticism. Sramana, a Buddhist monk, in Burma called Phoungye, in Siam a Talapoin. Sramana is the appellation of the Buddhist and Jaina ascetics, known to the later Greeks as Sarmanæ, Sarmanæ, or Germanes. The ordinary application of the word Brahman means a theologian or divine, and is derived from Brahm, the divinity.—*Strabo*, xv. pp. 7-20.

SRAOSHIA, in Parsee belief, an angel who appeared to Zoroaster.

SRAVAKA, a layman of the Jaina persuasion, and Savanga Dhamma laho hodu, or Savaka Dharma labha bhayatu, as used by Jivasiddhi in one place, are the ordinary salutations a Jati or religious Jain proffers to the laity.

SRAVANA. SANSK. The fourth month of the Hindu solar year, July—August, when the sun is in the sign Carcatata, answering to the Tamil Audi; also the fifth month of the lunisolar year, owing to that sort of year beginning with Chaitra. The fifth of Sravan is the Nagpanchami, or day set apart for the propitiation of the chief of the reptile race, the Naga or serpent. On this festival, at Udaipur, as well as throughout India, they strew particular plants about the threshold, to prevent the entrance of reptiles. Sravana, also the 22d lunar mansion.

SRAVANA-BELGOLA, a village in the Hasan district of Mysore, 35 miles from Chenraipatam, and 33 miles N. by W. from Seringapatam. Close to the village, on the summit of Chandrabetta, a syenite hill 500 feet high, is Gomateswara, a nude Jaina image 70 feet 3 inches high, which must have been cut from the solid rock; the arms and legs are ornamented with wreaths of flowers, the features are pleasing, the hair curled, unlike that of the natives of India. A pagoda has been built round the image. Even at the present day the Jains are numerously represented in the village of Sravan-belgola, which they are locally reported to have colonized during the reign of Chandragupta in the 3d century B.C. On the hill of Indrabetta in this neighbourhood are many ancient temples and inscriptions cut in the rock, with characters a foot long. The Ballala dynasty lasted from the 10th to the 14th century A.D. Their capital was Dwaravati-pura, the ruins of which are still to be seen scattered around the village of Hallabid. The earlier kings professed

the Jain faith, but the finest temples were erected to Siva by the later monarchs of the line. While the Ballalas were at the zenith of their power, the whole of Southern India acknowledged their sway. In 1311, a Muhammadan army under Kafur, the general of Ala-ud-Din, sacked Dwaravati-pura, and returned to Delhi laden with spoils. The Ballala prince escaped to Tondanur in Mysore, and the dynasty continued to exist for sixty years more.

SRAVASTI, in Pali Sawatthi or Sewet, a city in ancient Oudh, now called Sahet-Mahet. It is on the Rapti, and is famous for Buddha's preaching. Its position, though one of the most celebrated places in the annals of Buddhism, long puzzled the best scholars. The ruined city of Sahet-Mahet is situated between Akaona and Balrampur, at 5 miles from the former and 12 miles from the latter, and at nearly equal distances from Bahraich and Gonda. Sravasti is said to have been built by Raja Sravasta, the son of Yuvanasha of the Solar race, and the tenth in descent from Surya himself. Its foundation therefore reaches to the fabulous ages of Indian history long anterior to Rama.—*Cunningham's India*, p. 408.

SRI, a name of Lakshmi, the goddess of prosperity, the Ceres of the Latins, but is also very frequently used as an adjective, meaning illustrious. Sri is the Venus Aphroditus of the Indians, born like the Grecian Venus from the sea. Sri is often written Sree, Shi, and Shree. It is prefixed to the names of Hindu deities, Srimata, Sri-swami. All Hindu books are commenced with this word, written at the top of the first page, as an invocation to Ganesh, the god of learning, to favour the undertaking. It is similar to the Greek and Roman invocation of Jupiter, the alif initial at the top of the first page by the Muhammadans, the Iaus Deo of the Christians. Sri is now a Hindu honorific appellation, answering to Lord when applied to deity, and Mr. when used for man. Sri Rangapatnam is the Hindu name of Seringapatam. In all letters to Hindus, Sri is prefixed as an honorary appellation; and if the writer wish to be very respectful, he will repeat the word two or three times, as Sri, Sri! Jayaram. According to the Hindus, every city has its own Sri, its own fortune or prosperity, which in former times seems to have been represented by an image with a temple of its own. The practice amongst the ancients of considering a city under the protection of a well-known divinity is more familiar to Europeans, but an analogous superstition with that of the Hindus also prevailed amongst the polytheists of Europe. Thus in the seven chiefs before Thebes, the Theban women seek their shrines of the gods who are the guardians of the city.—*Hind. Theat.* ii. p. 64. See Krishna; Lakshmi.

SRI-CHUND, a son of Nanuk, founder of one of the sects of the Sikh faith. See Sikh.

SRI-DAMA-CHARITRA, a modern drama in five acts, by Sama Raja Dikshita, on the sudden elevation to affluence of Sri Daman, a friend of Krishna.—*Dowson*.

SRI DANDI, author of the Kavya Darsa or Mirror of Poetry, a work on the Ars Poetica.

SRI DHARA SWAMI, author of commentaries on the Bhagavat Gita, Vishnu Purana, etc.—*Dowson*.

SRI-HARIKOTTA, an insulated jungle tract of alluvium and marine deposit, in the Nellore district of the Madras Presidency. It lies between the Pulicat lake and the sea, stretching from Coromandel to Durgarazpatnam; and it contained in 1871, 13,578 inhabitants. Its people, the Yanadi, are a wild race, and speak a dialect of Telugu. When they first came under the notice of the British authorities in 1835, they lived upon roots and jungle produce; but they have been partially reclaimed since then, and now maintain themselves by cutting firewood.—*Imp. Gaz.*

SRI HARSHA lived in the 11th or 12th century A.D. He was a sceptical philosopher, author of the *Naga-Nandana*, a drama in five acts, which has been translated by Boyd. He also wrote the *Uttara Naishadha-Charita* or *Nai-Shadhya*, a poem on the life of Nala, king of Nishadhiya; it is one of the six *Maha-Kavya* or great poems of the Hindus. Sri Harsha's *Neshadha* relates the marriage of Nala, king of Neshadha, with Damayanti, daughter of Bhima, king of Vidarbha. It is esteemed the most beautiful composition in the Sanskrit language. Nalodaya wrote a continuation of it. The adventures of the couple constitute an episode in the *Mahabharata*, and are the subject of a novel in prose and verse by Trivikrama Bhata, entitled *Nala-Champu* or *Damayanti Kat'ha*. The *Nala* and *Damayanti* was translated into English by Mr. Kindersley of Madras.—*Dowson; Ward*, iv. 386.

SRI-KANTA, a mountain peak in Garhwal State, N.W. Provinces, lying in lat. 30° 57' N., and long. 78° 51' E., enclosed by a great bend of the Bhagirathi river; it is a sharp and lofty peak, 20,296 feet above sea-level, visible from Saharanpur, a distance of 105 miles in a straight line.

SRI-KRISHNA is the 9th, and Sri-Rama the 7th, incarnations of Vishnu, as a Kshatriya and a Dwarf Brahman. The anniversaries of these incarnations are observed.

SRI-MAHADEVI, mother of Sankaracharya, expelled her caste for adultery.—*As. Res.* xvii.

SRINAGGUR, in lat. 34° 31' N., long. 74° 51' E., the capital of Kashmir, is 5276 feet above the sea, in the valley of the river Jhelum, which divides the city into two equal parts, that are connected by seven bridges. The average breadth of the river is about 887 yards, and its depth during the summer season is about 18 feet. The city is surrounded by low, swampy tracts, which render it unhealthy. The population numbers about 150,000,—20,000 being Hindus, and the remainder Muhammadans. There are many places of historical interest, made famous by Asiatic and European writers. It contains the tomb of the mother of Zain-ul-Abidin, who died in the 15th century; the shrine of Syed Ali Hamadani, and the Jama Masjid, capable of holding 60,000 persons. The Takht-i-Suliman Hill overlooks the city. On the top is a shrine called the Sankaracharya temple, originally Buddhist, built by Jaloka, son of Asoka, about B.C. 220. Hari Parbat, an isolated hill on the northern outskirts of the city, is about 250 feet high, and is crowned by the fort and surrounded by a wall 20 feet high, both built by Akbar about A.D. 1590, at a cost of a million sterling.

The Sher Garhi, within the city, contains the royal palace.

The Dal or lake of Kashmir, on the N.E. side of

the city, is about 5 miles long, $\frac{2}{3}$ miles broad with an average depth of about 10 feet.

The Shalimar Bagh was laid out by Jahangir; the Nasib Bagh, another picturesque pleasure-ground, is said to have been first planned by Akbar.—*Imp. Gaz.*

SRINAGGUR, the capital of Garhwal, in lat. 30° 14' N., and long. 78° 37' E., was built in the 16th century, formerly the residence of the rajahs. It is on the south bank of the Alaknanda, about 20 miles above its junction with the Bhagmutty at Deo Prage, where a strip of level ground stretches along for three or four miles, forming the valley known by the same name as the town. The people of Garhwal are Bhot, dwelling in the passes and their neighbourhoods, at heights above 6000 feet. The pass-men state that ridges which, within the memory of man, were covered with forest and pasture lands, are now covered with snow, showing the extension of the snow zone. The Bhot, here as elsewhere, is an agriculturist, and is assisted by slaves, who live under the roofs of their masters.

SRINGAVERA, the modern Sungror, a village on the north bank of the Ganges, in ancient times inhabited by Nishada wild tribes, of whom Guha was the chief, by whose assistance Rama, Lakshmana, and Sita were ferried over to the south bank of the Ganges, a day's march above its junction with the Jumna.—*Hind. Theat.* i. p. 300.

SRINGIRI (or Sringa-giri) is in the Kador district of Mysore, on the edge of the Western Ghats, in lat. 13° 25' 10" N., and long. 75° 17' 50" E., on the left bank of the Tungga river. Population (1871), 1661. In the 8th century, Sankaracharya settled here, bringing, it is said, from Kashmir, the image of Saradamma or Saraswati. The spiritual throne which he founded has been handed down to the present day. The Magani of Sriogiri, in the upper valley of the Tungga, forms an endowment of the math or monastery over which the guru presides, and a monthly grant of £100 is allowed in addition by the Mysore State. Several large festivals are held during the year, each attended by from 3000 to 10,000 people, who are fed at the expense of the math.—*Imp. Gaz.*

SRIPADA or Serapada, or holy footprint, the name given in Ceylon to the footstep of Buddha, on the mountain Sumanakuta or Adam's peak, in lat. 6° 51' N., and long. 80° 35' E.; top of peak, 7385 feet, or 7420 feet; source of Kalu Ganga, 4345; bungalow, foot of Sripada peak, 5114 feet; lower limit of rhododendrons, on the slopes of Sripada, is 6550 feet. The Sripada is noticed in that part of the Mahawanso written by Mahanaama prior to B.C. 301. Models of it are shown in the Alu Wihara at Colta and at other temples of Ceylon. The Buddhists are the guardians of the Sripada, but devotees of all religions meet here freely around the object of their common adoration, for Christians, Muhammadans, and Hindus have reverence for the impressions of feet. It is a natural hollow artificially enlarged, said by Buddhists to be the impression of a foot of Buddha. It is, however, called by the Hindus, Sripada or Sripad, meaning the divine footstep, Vishnu having, they say, alighted on that spot in his avatars of Rama. Hindus make pilgrimages to the Sripada in Ceylon and in other places, where similar proofs of an avatar or descent have been discovered.

Christians and Muhammadans ascribe the mark to Adam, and claim that footmark as of their religious relic.—*India in the 15th Century.*

SRI PARVATA means the same as Sri Sails, the mountain of Sri or Lakshmi, a place of sanctity in the Dekhan, near the Kistna river. It still retains its sanctity, but has lost the splendour it formerly seems to have possessed by the extensive remains of sculptures on the mountain, and great labour and cost bestowed on the causeways by which it is approached. It is described by Col. Mackenzie (*Asiatic Res.* v. and vi.), and was afterwards visited by Dr. Voysey. In this temple was one of the twelve great lingas, the worship of which seems to have flourished particularly up to the period of the first Muhammadan invasion. Prior to the same date, also, it seems to have been a place of great resort for Yogis or Saiva ascetics.—*Hind. Theat.* ii. pp. 18, 277.

SRIPERMATOOK, about 30 miles from Madras, famed for its great Vaishnava temples.

SRIPHAL, the fruit of *Egle marmelos*, so called by Hindu poets, because it sprang, they say, from the milk of Sri, the goddess of abundance, who bestowed it on mankind at the request of Iswara. *Anona reticulata* is called Ramphal, or the fruit of Rama. *Anona squamosa* is named Sitaphal, after Sita.

SRI RANGAM, an island and small village six miles north of Trichinopoly, formed by the bifurcation of the river Cauvery and by the channel of the Colerun. A dyke or anicut has been raised on its eastern side to prevent the waters of the Cauvery entering into the Colerun. On it is a magnificent pagoda of the Vaishnava sect, composed of seven square enclosures, 350 feet distant from each other. Each enclosure has four gates with high towers, placed one in the centre of each side opposite to the four cardinal points. The outer wall of this temple is not less than four miles in circumference. The idol is named Ranganityangar, and the accumulated wealth in gold, silver, gems, and precious stones is valued at 12 to 15 lakhs of rupees. The hall of 1000 columns measures 450 feet by 130 feet. The number of columns is 16 in front by 60 in depth, consequently are not more than 10 feet apart. The care of the shrine is under vestrymen, called Dharma-karta, who aided the Editor to form a civil hospital at the place. From 1751 to 1755, the island and its pagodas were the frequent objects of the contests between the French and the British. In those contests, several rocks, the Golden, Pine, French, and Sugar Loaf were the points of the battles.—*Orme; Imp. Gaz.*

SRI SAMPRADAYA, a Vaishnava sect founded about A.D. 1150, by Ramanujacharya. He was born at Perumbur, and studied at Kanchi or Conjeveram, and afterwards resided at Sri Ranga. He then visited various shrines, propagating his reformed views, and reclaiming the shrines for the worshippers of Vishnu, particularly the celebrated temple of Tripati. The sect worships Vishnu and Lakshmi and their several incarnations. They keep the salagrama fossil and tulsi plant in their temples and dwellings, and set up in their houses images of stone and silver, which are daily worshipped. The temples appropriated to Vishnu and his consort are resorted to, and pilgrimages are made to Lakshmi-Balaji, Ramanath, and Ranganath in the south of India, to Badrinath in the Himalaya,

Jaganath in Orissa, and Dwaraka on the Malabar coast. This sect in general prepare their food individually and in private, and if a stranger's look fall on the food, the cooking is stopped and the food buried. They must not eat in cotton garments, but, having bathed, must put on woollen and silk. Their chief religious tenet is the assertion that Vishnu is Brahm, that he was before all worlds, and was the cause and creator of all. In opposition to the Vedanta doctrines, they deny that the deity is now of form or quality, but regard him as endowed with all good qualities and with a twofold form, viz. the supreme spirit Paramatma or cause, and the gross one, the effect, the universe or matter. Their doctrine is therefore called the Vishishtha-waita, or doctrine of unity with attributes. In these assertions they are followed by most of the Vaishnava sects. They assert three predicates of the universe, comprehending the deity; it consists of Chit or spirit, Achit or matter, and Iswara or god, or the enjoyer, the thing enjoyed, and the ruler and controller of both. Besides his primary and secondary form as the creator and creation, the deity has assumed, at different times, particular forms and appearances, for the benefit of his creatures. He is, or has been, visibly present amongst men in five modifications,—in his Archa, objects or worship, as images, etc.; in the Vibhalava or avatara, as the fish, the boar, etc.; in certain forms called Vyulha; of which four are enumerated, viz. Vasudeva or Krishna, Balarama, Pradyumna, and Anuruddha; fourthly, in the Sukshma form, which, when perfect, comprises six qualities. Blood-offerings at the temples are prohibited by all Vaishnava. Their reward for good acts is laid down as the perpetual residence in Vaikunt'ha or Vishnu's heaven.—*Professor Wilson.* See Mantra.

SRI-VAISHNAVA, a Hindu sect, worshippers of Vishnu, in the form of the four-handed image Lakshmi-Narayana, holding the sankha shell, chakra discus, gada club, and lotus flower. The byragi ascetics of the sect wear pewar or ochre-coloured clothes, have a kanthi or sacred garland around their neck, also a rosary of the tulsi ocimum. They are one of the four Sampradaya or Vaishnava ascetic byragi. These are four in number,—the Ramanandi, Nimanuji, Madhacharya, and Sri-Vaishnava. Some writers add the Valabbacharya, and others substitute it in place of the fourth. The Sri-Vaishnava are to the Vaishnava sect what the Sri-Saiva are to the Saiva. In the south of the Peninsula are two minor divisions, the Theungalay, whose monastery is at Tinnevely, and the Vadagalay, whose chief temple is at Agobilam in the Cuddapah district.

SRI YEO, the divine spirit. See Arka.

SROTRIYA or Srotutriya, a Brahman well read in the Vedas, who teaches and expounds them.

SROTRIYAM. TAM. A village or village lands, held at a favourable rate by any subject as a reward for past services. A srotriyam grant gives no right over the lands, and the grantee cannot interfere with the cultivators so long as they pay their rents.

SRUGHNA, now Sugh, a famous ancient city on the old Jurna, near Jagadri.

SRUTA-BODHA, a work on Sanskrit metres, attributed to Kalidasa.—*Dowson.*

SRUTI. SANSK. In Sanskrit, literature revealed by a deity. It applies properly to the Mantra and Brahmana portions of the Veda, but later the Upanishads were included. See Sruta.

SRUVA. SANSK. The lustral spoon, figured as held in the hand of the god Brahma.

SSE-TOHOUE, or the four valleys, also written Sze-chuen, is the largest province in China, and perhaps also the finest. Its temperature is moderate, both in winter and summer. The Yang-tze-kiang traverses the province from S.W. to N.E. Its fertility is such that it is said the produce of a single harvest could not be consumed in it in ten years. Numbers of textile and tinctorial plants are cultivated. On the hills are fine plantations of tea, of which all the best kinds are kept for the province, and the coarsest are sent to Tibet and Turkestan. Pharmacists from all the empire send their travellers to Sse-tchouen to lay in their stocks of medicinal plants. The worders of Sse-tchouen are the Yen-tsing and Ho-tsing, wells of salt and wells of fire. M. Imbert, for many years a missionary in this province, but subsequently appointed Vicar-Apostolic in Corea, where he was martyred in 1838, says there are dozens of salt wells in a tract of country of about ten leagues long by four or five broad. The water of these wells yields 20 to 25 per cent. of salt of very acrid quality, so much so as often to inflame the throat to a painful degree. The air that issues from these wells is highly inflammable. If when the tubeful of water is near the top you were to present a torch at the opening, a great flame, twenty or thirty feet in height, would be kindled. This does happen sometimes through the imprudence of workmen, or in some cases from a malicious desire to commit suicide in company. Wells from which fire only, and no salt, is obtained, are called Ho-tsing, fire wells. A little tube of bamboo closes the opening of the well, and conducts the inflammable air to where it is required; it is then kindled with a taper, and burns continually. The flame is of a bluish colour, three or four inches high, and one inch in diameter. Here the fire is not sufficient to boil the salt, but at about forty leagues off there are much larger fire wells. Showmen often fill bladders with it, and carry it about the country; they make a hole in the bladder with a needle, and kindle it with a taper, to amuse lookers-on. This is no doubt what the chemists call carburetted hydrogen. Sse-tchouen province counts nearly 100,000 Christians, zealous and faithful in the fulfilment of their duties.—*Hue's Chinese Empire*, i. pp. 288 to 303.

STAGMARIA VERNICIFLUA. Jack.

Arbor vernicia, *Rumph.* | Kaya rangas, . *MALAY.*
Black varnish tree, . *ENG.*

A native of the Eastern Islands, but not very abundant in Sumatra, though occasionally found in the neighbourhood of rivers. The wood is of a fine dark colour towards the centre. The bark exudes a resin which is extremely acrid, causing excoriation and blisters when applied to the skin. In this, as well as in becoming black when exposed to the air, it resembles the Melanorrhæa, cashew-nut tree, poison oak, and others of the Terebinthaceæ. According to Rumphius, this tree yields the celebrated Japan lacquer or varnish, and he considers it the same with that of Siam and Tonquin. Loureiro, however, represents the latter

to be the produce of another tree. Mr. Jack says the varnish of Siam and Cochinchina is probably the best, but that of Celebes and of Java, which is the produce of this tree, is also employed for the same purposes, and cannot be much inferior, as it bears an equally high price. Chinese and Tonquinese insert into the trunks two pieces of bamboo, sharpened at their points, in such a manner as to penetrate the bark in a somewhat oblique direction. This fluid resin is sold in Tonquin and Camboja for 33 to 60 dollars the pikul, but in many of the provinces of China for 200 or 300 dollars. The varnish is prepared for use by boiling it with an equal weight of the oil of Tang-yhu. The proportions are varied according to the purposes for which the varnish is required. Sometimes dry pigments are added for the sake of the red or other colours. The Japanese are the most skilful in preparing and ornamenting all kinds of work with this varnish, and their black lacquered works are conveyed to all parts of the world.—*Jack, Malayan Miscellany*, No. 3; *Eng. Cyc.*; *Jameson's Edin. Journal*, vi.

STALACTITES. Shih-chung-ju, **CHINESE.** Stalactitic carbonate of lime occurs chiefly in long masses suspended from the roofs of caverns in limestone rocks; stalagmites on the floor. Water containing carbonate of lime, held in solution by carbonic acid, trickling through crevices in the roofs of the caverns, gradually, during its exposure to the air, loses its carbonic acid, and consequently deposits its carbonate of lime; the water passing over the portion first deposited gradually adds to it, and eventually gives the carbonate of lime its great length and stalactitic character. In China, the cup-like masses hanging from the roofs of caves are coned into all sorts of shapes by means of pieces of bamboo. They are bright and sparry on fracture, and are usually perforated all through.—*Smith.*

STALAGMITES. Shah-chwang, **CHINESE.** Deposits of lime on the floors of limestone caves in China and the Tenasserim Provinces. Much of the alabaster of which ornaments are made is stalagmite; but all the alabaster images of the Tenasserim coast are made of marble, and not of compact gypsum, which they much resemble. Stalagmites are formed on the floor of the caverns by the water there depositing that portion of its carbonate of lime which is not separated during the formation of the stalactite. Caverns are sometimes nearly filled with these deposits. All the Tenasserim limestone caves have stalactites hanging from their roofs, and stalagmites raised on their floors. The elephant caves near Rangoon are of prodigious size, and the stalactites and stalagmites are wonderful, and when illuminated with blue lights, the effect is magical. Throughout the plain there is scarcely a rock in which one is not to be found. They are tenanted by myriads of bats. Near Rangoon is a small cave which is curiously and fantastically adorned with innumerable figures of Gautama, of every size, from the colossal to the miniature, stuck against the side of the rock, and occupying every available ledge.

STANISLAS, JULIEN, a Sanskrit and Chinese scholar, who translated the Chinese Buddhist pilgrim Hiuen Tshang's book of travels, named Si-in-ki, or Descriptions of the Countries of the West.

STAPHYLEA EMODI. *Royle. Serpent Stick.*

Guldar,	BEAS.	Mar-chob,	PERS.
Ohul,	CHENAB.	Thanari,	RAVI.
Ban-shagali,	"	Nag-dan,	SUTLEJ.
Ban-bakhura,	"	Kaghania,	"
Chitra, Kurkul, Jhelum.			

A small tree of the Himalaya, at an elevation of 6000 to 9000 feet, not uncommon in Murree and Hazara. Bark of branches speckled, whence, on the doctrine of signatures, arises the belief that a branch or stick of it kept by one will drive away snakes.

STAR-ANISE.

Hwai-hiang,	CHIN.	Anise d'Etoile,	FR.
Ta-hwai-hiang,	"	Skimmi,	JAP.
Pah-koh-hwin-hiang,	"	Badian-khatai,	PERS.
Anas-phool,	DUKH.	Anasi-pu,	TAM.

Star-anise is the fruit of the *Illicium anisatum* of Linnaeus, a shrub or small tree which grows in several places in the south-eastern parts of Asia, in China, Japan, the Philippines, and the countries extending from China to Japan from lat. 23½° to 35° N. The name is given from the clustering star-like form assumed by the capsules or pods, five to twelve in number, joined together at one end, and diverging in rays generally fine. These are used all over the east as a condiment. They are prized for their aromatic taste. The barks have a more aromatic flavour than the seeds, but they are not so sweet. In China, their most common use is to season sweet dishes. In Japan they are placed on the tombs of friends, and presented as offerings in the temples. They are chiefly exported direct to India, England, and the north of Europe, at the average value of 8½ dollars per pikul. In India they are much used in seasoning curries and flavouring native dishes, and large quantities are used in Europe in the preparation of liqueurs. It is from this fruit that the oil of anise is prepared, and it imparts the peculiar flavour of anisette de Bourdeaux. — *Burton's Mecca; Morrison; Simm.; Hogg; Faulkner; O'Sh.*

STARCH.

Abgoon,	ARAB.	Amido,	IT.
Kau,	BURM.	Kanji, Garus,	MALAY.
Mien-fen,	CHIN.	Nishashta,	PERS.
Stivelse,	DAN.	Gomma de trigo,	PORT.
Amidon,	FR., SP.	Krkhamal,	RUS.
Amidan, Stärke,	GER.	Starkelae,	SW.
Ganji,	HIND.	Godambe mao,	TAM.

The starch of commerce is procured generally from wheat, rice, and potatoes. The best kind is white, soft, friable, and easily reduced to powder. It is insoluble in cold water and alcohol, but readily affords a gelatinous solution in warm water, which is largely employed for stiffening articles of wearing apparel, and for dressing some descriptions of goods after weaving. It is also much employed by calico printers and others. It can be obtained from a great variety of plants, and many of the most productive of it are natives of the tropical countries in the east. Starch is one of the constituent parts in all mealy farinaceous seeds, fruits, roots, and other parts of plants. The following are the chief fecula or starch-like substances of the east, and may be considered separately also under the heads Arrowroot, Food, and Maranta :—

Arrowroot, West Indian,	Maranta arundinacea.
Arrowroot, East Indian,	Maranta ramosissima.
Curcuma angustifolia, and other sp. of Curcuma.	
Arrowroot, Mergui,	Tacca pinnatifida.

Tapioca,	Jatropha manihot.
Cassava meal,	Do.
Plantain meal,	Musa paradisiaca.
Sago, Singapore,	Arenga saccharifera.
Sago, Malabar,	Caryota urens.
Sago meal,	Phoenix farinifera.
Salep,	Habenaria, etc.
Nelumbium seeds,	Nelumbium speciosum.
Singhara seeds,	Trapa bispinosa.
Yams,	Dioscorea (var. sp.).
Telinga potato,	Amorphophallus campanulatus.
Sweet potato,	Batatas edulis.
Ceylon moss,	Plocaria candida.
Kotec kalango,	Aponogeton monostachyon
Farina of	Parkia biglobosa.
Chara kalango,	Plectranthus tuberosus.
Champoo,	Caladium nymphifolium.
Sago, Indian,	Cycas revoluta, C. circinalis, species of Sagus.

STARLINGS are birds of the sub-family Sturninae and family Sturnidae. The spotted-winged starling, *Saraglossa spiloptera*, is a native of the woods and jungles of the lower hills. *Sturnus unicolor*, *Marmora*, the Sardinian starling. The rose-coloured starling, *Pastor roseus*, *Lin.*, is a famous locust killer, but their flocks commit immense depredations on the white sorghum and the mulberry.

STAUNTON, Sir GEORGE THOMAS, Bart, ob. August 10, 1858, was born at Milford House, near Salisbury, in 1781, and succeeded his father, the first baronet, in 1810. He was chief supercargo for the E. I. Company, President of the Select Committee at Canton, and Commissioner of Embassy to Pekin in 1816. His father, the first baronet, was secretary to Lord Macartney, a Governor of Madras, and received his title after the negotiation of the peace with Tipu Sultan in 1784. He was subsequently Secretary of Legation during Lord Macartney's embassy to China in 1792. With the embassy of Lord Amherst were present Sir George Staunton, who made a translation of the Chinese Penal Code; also Sir John Davis, author of *The Chinese*, and translator of several works; and also Dr. Morrison, author of *Chinese Dictionary*.

STAUNTONIA, a genus of plants belonging to the natural order Lardizabalaceae, named after Sir George Staunton. This genus is common to China and the Himalayan mountains. The Himalayan species are found in Nepal and in lat. 30° N., at elevations of 5000 and 6000 feet. *Stauntonia latifolia*, *R. Br.* (*Hollobolia latifolia*, *Wall.*; *Ramkela* and *Gophia*, *HIND.*), is a twining shrub of Nepal and Kamaon, at elevations of 5000 and 6000 feet. The fruit has a sweetish pulp, and is eaten by the people. *Stauntonia angustifolia*, *R. Br.*; *Hollobolia angustifolia*, *Wall.*, is a plant of Nepal.—*Voigt*.

STAUROBATES opposed Semiramis, but was at first overcome by that queen, though he subsequently defeated her. *Staurobates* is supposed to be the same with *Sthavarapati*.—*As. Res.* iv. 371, vi. 529, xiii. 266.

STEARINE, the harder portion of animal fats, olein or elain being the softer ones. Stearine yields an acid, called stearic acid, having the form of brilliant, white, scaly crystals, which is largely employed in soap and candle making.—*Waterston*.

STEATITE, Soapstone, Potstone.

Hwah-shi,	CHIN.	French chalk,	ENG.
Hwah-shwui,	"	Balpan,	HIND.
Figure stone,	ENG.		

Steatite is a silicate of magnesia, a soft magnesian mineral, unctuous to the touch. It occurs in beds generally associated with talcose slate, common in Southern Asia, of all sorts and colours. At Vellore, Kurnool, and Salem, and near Mysore there are very fine and beautifully white soap-stones, and near Chittur there is a valuable description, procurable in large blocks, and suitable for many statuary and decorative purposes. There is a quarry of excellent potstone at the Nagery Hills. The stone is of fine grain, easily worked with the chisel, and susceptible of a high polish; when oiled, this stone resembles in a great degree black marble. It is abundant in the rocks of the Irawadi towards Khamti, and the white variety is used all over Burma for writing with on their black paper books. Like potstone and serpentine, which it nearly resembles in composition, it becomes considerably harder by exposure to the air. When first raised it may be easily turned with chisels; the turned articles may be polished first with sand and water, and afterwards with tripoli and water, and, for the highest gloss, with rottenstone and oil, woollen cloths being used in each case. When the steatite has become hard, the methods employed for alabaster may be resorted to. Steatite is used as the material for idols and other figures, which form the household gods of the Chinese. It is also mixed with black lead in the manufacture of crucibles. It forms a polishing material for serpentine, alabaster, and glass, and removes grease spots from cloth. See Soapstone.

STEEL.

Kang-tieh, . . . CHIN.	Malela, Kaluli, . . . MALAY.
Staal, . . . DAN., DUT.	Aco, PORT.
Acier, FR.	Stal, RUS., SW.
Stahl, GER.	Acero, SP.
Foulad, . . . HIND., PERS.	Egu, TAM.
Acciajo, IT.	Wukku, TEL.
Baja, Waja, Lela, MALAY.	Chelik, TURK.

Steel is iron combined with a small quantity of carbon. It is hard, brittle, resists the file, cuts glass, affords sparks when struck on flint, and retains the magnetic virtue for any length of time. It loses its hardness by being heated and cooled very slowly. Steel is used for many small implements and important engineering and other works.

Konasamoodrum steel is made at several villages in the Circar of Elgundel, at Ibrahimpatnam, and at Konapur in the Karaolla pargana, and at Atmacore and Chintulpet in the Vellurla Taluka. Formerly it was prepared at several other places. Teepoor, the iron, is manufactured at Maytipilly, a village 12 miles south of the Godavery, from a ferruginous sand procured from gneiss by roasting, pounding, and washing.

The steel wire of Chinnapatnam, in Mysore, has long been known. The ore from which wootz, an Indian steel, is made, is a magnetic oxide combined with quartz, generally in proportion of 48 parts of quartz to 52 of oxide of iron. It is made in many parts of the south of India, but Salem is the chief seat of the manufacture, and there the ore is prepared by stamping and separating the quartz either by washing or winnowing. The furnace is from three to five feet high from the surface of the ground, and the ground is hollowed out beneath it to the depth of eight inches or a foot. It is somewhat pear-shaped, being about two feet diameter at the ground, and tapering to about one foot diameter at the top; it is built

entirely of clay. Two men can finish one in a few hours; it is fit for use the next day. The blast is furnished by a pair of bellows each being a goat skin with a bamboo nozzle; a semicircular opening about a foot and a half high and a foot in diameter at the bottom, is left in the furnace, and before each smelting it is stopped up with clay. The furnace is then filled up with charcoal, and kindled, a small quantity of ore, previously moistened, is laid on the top of the fuel, and charcoal is thrown over it to fill up the furnace; in this manner ore and fuel are added and the bellows plied for four hours or thereabouts, when the process is stopped, and the temporary wall in front of the furnace having been broken down, the bloom is removed by a pair of tongs from the bottom of the furnace, and is then beaten with a wooden mallet to separate as much of the vitrified oxide as possible; and, while still red-hot, it is cut half through with a hatchet, and in this state sold to the blacksmiths, who perform all the subsequent operations of forging it into bars, and making it into steel. The process of forging into bars is performed by sinking the blooms in a small charcoal furnace, and repeated heatings and hammerings to free it as much as possible from the vitrified and unreduced oxide of iron; it is thus formed into bars about a foot long, an inch and a half broad, and about half an inch thick. In this state it is full of cracks and exceedingly red short. These bars are cut into small pieces to enable them to pack in a crucible. A quantity amounting to a pound and a half to two pounds is put into a crucible along with a tenth part by weight of dried wood of the *Cassia auriculata* chopped small; these are covered with one or two green leaves of the *Calotropis gigantea*, the mudār plant, and the mouth of the crucible filled up with a handful of tempered clay, which is rammed so as to exclude the air perfectly. As soon as the clay is dry, twenty to twenty-four of the crucibles are built up in the form of an arch with their bottoms inwards, in a small furnace urged by two goat-skin bellows, charcoal is heaped up over them, and the blast kept up without intermission for about two hours and a half, when it is stopped, and the process is considered complete. The crucibles are removed from the furnace and allowed to cool; they are then broken, and the steel, which has been left to solidify, is taken out in a cake, having the form of the bottom of the crucible. When the fusion has been perfect, the top of the cake is covered with strais, radiating from the centre, but without any holes or rough projections on it; when the fusion has been less perfect, the surface of the cake has a honeycombed appearance, caused probably by particles of scoriam and unreduced oxide in the bar iron, and often contains projecting lumps of iron still in the malleable state. The natives prepare these cakes of steel for being drawn into bars by annealing them for several hours in a charcoal fire actuated by bellows, the current of air from which is made to play upon the cakes whilst turned over before it at a heat just short of that sufficient to melt them; by this means the excess of carbon is detached. The process of smelting iron differs according to circumstances in different parts. In some the ore is collected in the form of sand from the beds of rivers or ironstone is collected either from the surface or from mines.

Steel of Mysore made at Mudgiri is the best.

That made of kanekal ore from the Dhore Gudda Hill in the Chikkanaikenhalli taluk, is produced in a ruder manner, and is of an inferior quality. The kanekal is pounded to the size of small gravel and well cleaned. But the Mudgiri ore is reduced to an iron-sand by hard wooden mallets, and the earthy particles washed away, and is then filled into the small furnace with 15 times its bulk of charcoal, made of *Ficus Indica*, *F. racemosa*, and *F. excelsa*. The furnace is about 4 feet high, 2½ feet at bottom, and about 1½ feet at mouth, which is covered with an open earthen pot, pierced with holes at its bottom, like a colander; ten seers of charcoal are placed at the bottom, then one seer of the iron-sand, over which again five more seers of charcoal are placed (the furnace having been previously warmed). The materials are then ignited, and the fire kept up from below without intermission for three hours, by two men blowing two common blacksmith's hand-bellows, during which time the colander has been filled as the material sinks till seven more seers of iron-sand have been added, with their due proportion of charcoal. The whole eight seers are then considered to be in a proper state to take out, which is done by opening the hole at the bottom, when the semi-molten mass is withdrawn by large pincers to an indentation in the neighbouring rock, where it is beaten with the same wooden mallets into as shapely a mass as time will admit of. This is reheated in a forge and beaten into four rough bars, and again reheated and beaten into bars 7 to 11 inches long, and in this state they are fit for the crucibles, and called 'gati murudu.' The furnace for converting them into steel is merely a hole in the ground, about two feet deep, lined with red clay, the greatest diameter being about two feet, and the least (which is about nine inches from the surface) about one foot, when it is gradually sloped out in the form of a skew-back to receive fourteen crucibles with their ends downwards, which are ranged round it in the form of a flat arch. Charcoal is put below and above, and when ready for igniting, the charcoal appears about six inches or so above the ground, and is prevented from spreading by a low wall, in the rear of which the bellows are blown. The charcoal is renewed from time to time, so as to keep the crucibles in the midst of a carefully-regulated heat, which is kept up by plying the bellows unremittingly for four hours, when the firing is complete.—*Major Cuth. Davidson, Assistant Resident; M. C. C. for Ez. of 1851; Rohde, MSS; Mad. Lit. Journ.; M. E. J. R.; Heyne.*

STEFANO, HIERONIMO DI SANTO, a Genoese, visited India about 1474-99 as a merchant. At Cairo he laid in a stock of coral beads and other wares, and passed down the Nile to Cane (Keneh), from which he travelled by land through the Egyptian desert for seven days to Cosir (Cosser) on the Red Sea, where he embarked on board a ship, which in 25 days carried him to Masua (Massouah) off the country of Prester John; and in 25 days more, during which he saw plenty of boats fishing for pearls, to Adem (Aden); and in 35 days more to Calicut. 'We found that pepper and ginger grew here, . . . and the nut of India' (coconuts). From Calicut he sailed in another ship, and in 26 days reached Ceylon, 'in which grow cinnamon trees, . . . many precious stones, such as garnets, jacinths, cats'-eyes, and

other gems, . . . and trees of the sort which bears the nut of India.' Departing thence after twelve days, he arrived at a port on the coast of Coromandel, where the red sandal-wood grows; and, after a long stay, departing thence in another ship, after 27 days reached Pegu in Lower India. This country (Pegu) is distant 15 days' journey by land from another, called Ava, in which grow rubies and many other precious stones. From Pegu, where he suffered many and great troubles, he set sail to go to Malacca, and, after being at sea 25 days, one morning found himself in a port of Sumatra, where grows pepper in considerable quantities, silk, long pepper, benzoin, white sandal-wood, and many other articles. After further and greater troubles suffered here, he took ship to Cambay, where, after six months' detention among the Maldives, and subsequent shipwreck, he at length arrived, but stripped of all his goods. He notices that Cambay produced lac and indigo. In his destitution he was assisted by a Moorish merchant of Alexandria and Damascus, and after a time proceeded in the ship of a sheriff of Damascus as supercargo to Ormuz, in sailing to which place from Cambay he was 60 days at sea. From Ormuz, in company with some Armenian and Azami (Irak-Ajemi) merchants, he travelled by land to Shiraz, Ispahan, Kazan, Sultaniyeh, and to Tauris; whence he went on with a caravan, which was plundered by the way, to Aleppo, and finally to Tripoli in Syria.—*India in the 15th Century; Dr. Birdwood's Records.*

STEGODON ORIENTALIS. *Swinhoe*. Large broken masses of its fossil bones are obtained in Sze-chuen, Shan-tung, and Shen-si in China, and are called Lung kuli or dragon's bones. They are powdered and levigated, and used in spermatorrhoea. The fossil teeth of *Stegodon Sinensis*, *Owen*, also, are called Lung-chi or dragon's teeth.—*Smith.*

STELLARIA MEDIA. *Sm.* Kaaray muntha kiray, TAM. One of the Alsiniaceæ or chickweed tribe of plants. *S. media* grows on the Neigherries, and *S. triandra*, *Wall.*, of Nepal, is used by the natives on the Neigherries as a pot-herb, eaten alone and mixed with others; probably introduced.—*Jaffrey.*

STEMONOPORUS. *Thw.* A genus of Ceylon trees. The *S. acuminatus* is a large tree of Ceylon in the Ambagamwa, Badulla, and Mahamahawera districts, at no great elevation. *S. affinis* is a large tree, growing in the Hunasgiria district, at an elevation of 4000 feet. *S. canaliculatus*, a moderate-sized tree, of the Hinidun and Reigam corles, at no great elevation. *S. Gardneri*, a great forest tree, near Adam's Peak, at an elevation of about 5000 feet. *S. lanceolatus* is a small tree near Ratnapura, at no great elevation. *S. Moonii*, near Maturatte. *S. nitidus*, at Pasdoon corle, a middle-sized tree, at no great elevation. *Thwaites* also mentions *S. oblongifolius*, *S. petiolaris*, *S. reticulatus*, *S. rigidus*, and *S. Wightii*, a great tree, the *Vateria Ceylanica* of *Wight*; and *S. apicalis* (the *Urandra apicalis* in *Hooker's Kew Journal of Botany*), is a great tree of the damp forests, at an elevation of 1000 to 2000 feet, the Ooroo-kannoo gass of the Singhalese.—*Thw. p. 43; Beddome, Fl. Sylv. p. 99.*

STENO MALAYANUS.

Dolphinus plumbeus, DuRoi, Cuv.
D. Malayanus, Lesson apud Cuv.

STEPHEGYNE PARVIFOLIA.

Inhabits the Malabar coast and coasts of Penang. It is numerous and rather heavy in its movements, but is rarely captured, except by chance in the stake-nets. It eats small fishes, Clupea and Glyptisodon coelestinus. Steno frontanus inhabits the Indian Ocean and the Pacific.—Cuvier.

STEPHEGYNE PARVIFOLIA. *Hooker f. et Benth.* This is a large deciduous timber tree, one of the Rubiaceae, the Nauclea parviflora of Roxburgh. Its wood is light, moderately hard, of a pinkish-brown colour. *S. diversifolia*, *H.*, is a tree of Burma, and *S. tuberosa*, *H.*, a tree of Ceylon.

STERCULIACEÆ, an order of plants of the E. and W. Indies, S. America, Mexico, Madagascar, all Southern Asia, and New Holland. The order comprises 82 genera, and upwards of 100 species. They are trees or shrubs, sometimes climbing or twining plants, and are all remarkable for the abundance of their mucilage and the tenacity of their fibres.

A. Helicteres, Schott and Endlicher.

Isora corylifolia, *Sch. and Endl.*, all India.
I. grevillifolia, *Endl.*, Timor.
Reevesia thyrsoides, *Lindley*, China.
Helicteres hirsuta, *Lour.*, Cochinchina, Malay Arch.
H. angustifolia, *Linn.*, China.
H. elongata, *Wall.*, Taong-Dong.
H. isora.
H. virgata, *Wall.*, China.
H. spicata.
H. pulchra, *Wall.*, Burma.

B. Sterculiæ, Schott and Endlicher.

Pterygota Roxburghii, *Sch. and Endl.*, Sylhet, Chittagong.
Hortiera minor, *Lam.*, Sunderbuns.
H. littoralis, *Ait.*, Mauritius, Pen. of India.
H. fomes.
H. papilio.
H. macrophylla, *Wall.*, Munipur.
H. acuminata, *Wall.*, hills N.E. of Bengal.
Triphaca Africana, *Lour.*, Mozambique.
Sterculia foetida, *L.*, all E. Indies, Moluccas.
S. villosa, *Roxb.*, India, Hardwar to Jumna.
S. colorata.
S. Roxburghii.
S. guttata, *Roxb.*, Pen. of India.
S. lanceifolia, *Roxb.*, Khasya.
S. acerifolia, *Cunningham*, —?
S. pallens, *Wall.*, Nepal.
S. campanulata, —? Khasya.
S. ornata, *Wall.*, Burma.
Southwellia balanghas, *Sch. and Endl.*, China.
S. nobilis, *Saltst.*, India.
S. versicolor, *Endl.*, Ségain.
S. lanceolata, *Endl.*, China.
S. coccinea, —? Sylhet, Penang.
S. angustifolia, —? Nepal, Penang.
S. parviflora, *G. Don*, Tipperah, Penang.
Cavallium urens, *L.*, Peninsula of India.
C. comosum, *Sch. and Endl.*, Amboyna.
Hildegardia populiflora, *Sch. and Endl.*, Coromandel.
H. Candollii, *Endl.*, Timor.
H. macrophylla, *Endl.*, Pondicherry.
Erythralpis Roxburghiana, *Lindl.*, Pen. of India, Khasya, Hardwar.
Firmiana platanifolia, *Sch. and Endl.*, China, Japan.
Scaphium Wallichii, *Endl.*, Martaban.
Durio sibethinus, *L.*, Eastern Archipelago.
Gossampinus Rumphii, *Sch. and Endl.*, E. Indies, E. Archipelago.
Salmalia Malabarica, *Sch. and Endl.*, all India.
S. insignis, *Sch. and Endl.*, Burma.
Bombax ceiba, *L.*, East and West Indies.
Adansonia digitata, *L.*, West Africa, all India.
D. Bomboyes, *D. C.*
Pentapetes phœnicia, *L.*, all East Indies.
Melhania Hamiltoniana, *Wall.*, Burma.

STERCULIA.

M. abutiloides, *Arn.*, Peninsula of India.
M. incana, *Heyne*, Mysore.
Pterospermum auberifolium, *Lam.*, Ceylon, Pen. of India.
P. rubiginosum, *Heyne*, Courtallum.
P. cinnamomeum, *Kurz*.
P. Heynianum, *Wall.*, Gingi, Courtallum.
P. diversifolium, *Bl.*
P. reticulatum, *W. and A.*, Pen. of India.
P. glabrescens, *W. and A.*
P. acerifolium, *Willde.*, Pen. of India, Assam.
P. obtusifolium, *Wight*, Courtallum.
P. Javanicum, *Jungb.*
P. aceroides, *Wall.*, Martaban.
P. lanceifolium, *Roxb.*, Assam.
P. semisagittatum, *Buch.*
Astrapea Wallichii, *Lindl.*, Madagascar.
Kydia calycina, *Roxb.*, Pen. of India, Nepal, Hardwar to Jumna.
K. glabrescens, *Mast.*
K. fraterna, *Roxb.*, CIRCARS.
E. Wallichiana, *D. C.*
Wallichia quinquelocularis, —? Pulney Hills.
W. caryotoides, *Roxb.*
W. densiflora, *Martius*.
W. disticha, *T. And.*
W. nana, *Griff.*
W. yomea, *Kurz*.
Eriolena Candollii, *Wall.*, Prome.
E. Wallichii, *D. C.*, Nepal.
E. Hookeriana, *W. and A.*
E. quinquelocularis, *Wight*.
E. spectabilis, *Planch.*
E. Stocksii.
F. Byttneria, *D. C.*
Theobroma cacao, *L.*, S. America, also T. Guianense,
T. bicolor, *T. angustifolium*.
Abroma augustum, *L.*, Penin. of India, Moluccas.
A. fastuosum, *Grtn.*, Timor, N. Holland.
Guazuma tomentosum, *H. B.*, S. America, cultivated in India.
G. ulmifolium, *Lam.*, West Indies.
Commelyna echinata, *Forst.*, Penang, Singapore, Moluccas.
C. platyphylla, *Andr.*, Moluccas.
Byttneria herbacea, *Roxb.*, CIRCARS, Vellore, Bombay.
B. pilosa, *Roxb.*, Sylhet.
B. aspera, *Colebrooke*, Sylhet, Chittagong.
Kleinhorvia hospita, *Linn.*, Penin. of India, Penang, Moluccas.
Actinophora fragrans, *Wall.*, Mauritius.
G. Hermanniana, *Juss.*
Lochenia supina, *Arn.*, Peninsula of India.
L. corchorifolia, *Arnott*, all India.
Visenia velutina, —? Java, Mauritius.
Waltheria Indica, *Linn.*, Ceylon, Pen. of India and Malacca, Bengal, Dehra Doon.

—Voigt.

STERCULIA, a genus of plants of the order Sterculiaceæ. One species, the Kun-nun-nut of the Burmese, an enormous tree, grows at Tavoy, as also does another species, called in Tavoy Thika-doo. One species in Africa, and another in India, *S. foetida*, yields a tragacanth-like gum. The seeds of *Sterculia chicka* are eaten by the Brazilians, as in India are those of *S. balanghas*, *S. urens*, and *S. foetida*, after being roasted. A species called Kodalo in Telugu, not *S. foetida*, is a tree of Ganjam and Gumsur; extreme height, 39 feet; circumference, 3 feet; and height from ground to the intersection of the first branch, 8 feet; gives a light wood, used for planks, doors, boxes, and scabbards; it is also used for firewood, being tolerably plentiful. *Sterculia ramosa*, *S. foetida*, *S. campanulata*, *S. piperifolia*, are very plentiful throughout the Pegu province; they yield a gum which is known in the bazars of Bengal under the name of Kotheela. Other two species, *S. balanghas* and *S. colorata*, are not so plentiful. This gum is

STERCULIA ACUMINATA.

probably analogous to the tragacanth, which Dr. Lindley states is obtained from a species of *Sterculia* at Sierra Leone.

STERCULIA ACUMINATA, the Kola acuminata, *R. Br.*, is the Kola nut or Gongo nut tree of W. Africa and the Soudan, Senegambia, Angola. In Fezzan they sell at a dollar for four seeds. They support the strength, allay inordinate appetite, assuage thirst, promote digestion, and render those who use them capable of prolonged fatigue. It should be introduced into India. Quantities of the nut are carried to the interior of Africa. Each nut of the Gongo variety sells for 100 cowries, and 2500 cowries at Rabba on the Kevorra value a dollar of 4s. 4d. Bitter Kola fruit is about the size of a peach, rose-coloured, and very pretty. The bitter Kola nut is intensely bitter, not astringent like common Kola, and is used for medicinal purposes.

STERCULIA ALATA. Roxb.

Bud'h's Cocconut.

Pterygota Roxburghii, Sch. and Endl.

Shaw-nee, . . . BURM. | Dodelee marn, . . . CAN.

Grows to an immense height in Canara and Sunda in deep ravines and sheltered places below the ghats, but is used there only as a support for pepper vines. The wood is said to be too spongy for spars, for which its height and straightness otherwise well fit it. It is a handsome tree in the Tenasserim Provinces, bearing a large fruit, whose winged seeds are sometimes eaten by the natives.

STERCULIA BALANGHAS. Linn. Pin-po, CHIN. A tall and straight tree of the hotter parts of Ceylon, common in the forests of the Bombay coast. It may readily be distinguished at certain seasons by its large pink fruit. The wood is of open grain. The seeds are described by Rumphius as being roasted and eaten by the natives of Amboyna, and the capsules burned for the preparation of the kusumbha colouring matter.

STERCULIA COLORATA. Roxb.

Bhai? DUKH. | Karaka, . . . DUKH.? TEL.

A large tree of the Dekhan, which is deciduous in the cold season, and flowers in March and April. The wood is said to be useless. Carpels of a bright red, somewhat resembling the broad pod of a pea opened, with the peas adhering. The tree when covered with them has a strange appearance.

STERCULIA FOETIDA. Linn.

Jangli, Badam, . . HIND. | Kudrap-dukku, . . TAM.
Pinari maram, . . TAM.

This large tree is very common in the Central Province of Ceylon, and grows in the Peninsula of India generally, but chiefly on the western coast, in Malabar and Mysore. It is common on the hills and plains of British Burma. In Ceylon its wood is used for common house-building purposes. On the western coast and in Mysore, it is applied to a number of useful purposes; and Dr. Gibson tells us that it is used as a substitute for the true poon spars in small country vessels. It makes a good avenue tree. In the cells of this fruit there are contained certain white kernels which have a very pleasant taste, inter carmen ossiculum locatur oblongo-rotundum nucleum continens candidum amarodulcem. The flower has a most offensive smell, and hence the Tamil name. The fruit is used in the treatment of gonorrhoea. The leaves are deemed aperient, and a decoction of the fruit mucilaginous and

STERCULIA URENS.

astringent. The seeds are oleaginous, but are deemed unwholesome. The semi-solid oil obtained by expression from the seeds of this large jungle tree is thick at all seasons of the year, appears to contain a large percentage of stearine, but it is doubtful if it can be obtained in large quantities. It was sent to the Great Exhibition of 1851 from Bombay.

STERCULIA GUTTATA. Roxb.

Kawillee of ANIMALLAY. | Pi maram, . . . TAM.
Goldar, DUKH. | Ramena pu maram, "
Kukar, MAHR.

A large erect forest tree of Ceylon, Malabar, and all over Southern India. Carpels the size of a large apple, three or more growing together, of a reddish colour; seeds size of a chestnut, roasted and eaten by the natives. The bark of the younger parts of the tree abounds with very strong, white, flaxen fibres, of which the inhabitants of Wynad manufacture a kind of coarse cloth, which derives its name from the first process of its manufacture, viz. the chopping the bark into small pieces, from auragoono, to cut. It is not usual to make use of the bark until the tenth year. The tree is then felled, the branches lopped off, and the trunk cut into pieces of six feet long, a perpendicular incision made in each piece, the bark opened and taken off whole, chopped, washed, and dried in the sun; by these means, and without any further process, it is fit for the purposes of clothing.

STERCULIA MONOSPERMA. Ventenat. The *S. nobilis* of R. Brown, a middle-sized spreading tree of China. Its seeds and those of *S. urceolata* of the Moluccas, are roasted and eaten as chestnuts.

STERCULIA PARVIFLORA. Roxb. Ram-julparee, HIND. A middle-sized tree, a native of the hills east of Tiperah. It is abundant in the jungles of Ajmir.—*Roxb.; Gen. Med. Top.* p. 202.

STERCULIA PLATANIFOLIA. Tung. Wu-tung, CHIN. Ornamental, shady, large-leaved tree of China, frequent in the courtyards of houses and temples. The seeds are oily, and enter into the composition of the cakes eaten at the autumnal festival of the eighth month. The leaves and liber make a hair-wash and a soothing lotion.

STERCULIA URENS. Roxb.

Buli? BENG. | Vello butalle, . . . TAM.
Kur katila, Katira, HIND. | Vellay putalli, . . . "
Kundol, Kavali, MAHR. | Thabsi, Kavali, . . . "

This large tree is a native of Ceylon and of most parts of India. Its peculiar bark looks as if painted of a light colour. Wood soft, spongy, and loose-grained, only fit for the most common purposes. Its leaves and tender branches are used in certain cattle diseases. The leaves when soaked in water render it ropy and glutinous. The bark yields the Katila gond gum, resembling tragacanth. The carpel is covered with rigid bristly hairs, which puncture like the *Mucuna pruriens*. The seeds of the stinging pods are roasted and used by the natives as an article of diet, and also as a dainty. Bark, exceedingly astringent, tinges the spitlike reddish. Its gum has been sent to London, but artists did not find it answer. It exudes spontaneously during the hot season, in large, light-brown or white, transparent tough masses. Immersed in water, these swell like a jelly, but do not dissolve unless by protracted boiling. Its uses are very limited. The solution is not adhesive. The want of adhesiveness renders it unsuitable for the arts, while its

difficult solubility renders it inferior to most other gums for medicinal purposes. A similar gum, called Kutira, is afforded by the *Cochlospermum gossypium*.

STERCULIA VILLOSA. Roxb.

Gul-kandar, Kuri, CHEN. | Kurdula, . . . MAHR.
Gul-bodla, . . . HAZARA. | Osha, God-gudala, SUTLEJ.
Oodhal, Oodial, . . . HIND. | Magsu, . . . SUTLEJ, RAVI.

A large tree of the Dekhan and in the mountainous countries to the eastward of Bengal, common in many places in the outer hills of the N.W. Himalaya to 3600 feet or more up to the Indus, and occurs in the Salt Range. It has a straight trunk, with a smooth bark, leaves palmated, five or seven lobed. The bark can be stripped off from the bottom to the top of the tree with the greatest facility, and fine pliable ropes may be made from the inner layers, whilst the outer yield coarser ropes. The rope is very strong and very lasting, wet doing it little injury. In Southern India elephant ropes, and in Bombay bagging, are made of it. In Dehra Doon good paper has been made from it.

STERCULIA WALLICHII

Wulena, Ulan, BEAS, RAV. ; Kuri, . . . CHENAB.

A shrub of the Panjab, occasional to 3600 feet. —*Drs. Roxb., Ainslie, Brandis, Gibson, Mason, Riddell; Wight and Arnott; Cleghorn; Royle; M'Clelland; Stewart; W. Ic.; Captains Beddome, Drury, Macdonald; Thomson and Mendis; Rohde.*

STEREOSPERMUM CHELONOIDES. W. Ic.

Bignonia chelonoides, Linn.

Tha-koop-poo, . . . BURM. | Vela-pathri, . . . TAM.
Padri, . . . HIND. | Kala-goru, . . . TEL.
Padul, . . . MAHR. | Moka-yapa, . . . TR.
Lamu-madala, . . . SINGH.

This, though not a large, is a very handsome tree, with very fragrant, beautiful pinkish flowers. It is very common in almost all the forests of the Madras Presidency up to an elevation of about 3000 feet, also in Ceylon, Mysore, Bombay, Bengal, and Burma. The wood is of a beautiful orange-yellow colour, close and even grained, elastic and durable, easily worked, and gives a smooth glossy surface. A cubic foot weighs 57 to 60 pounds unseasoned, and 40 pounds when seasoned; and its specific gravity is .768. The sapwood is rather coarse-grained, of a brownish-white colour, and not durable. The wood is much used in house-building, and for a variety of purposes by the natives. The roots, leaves, and flowers are used medicinally. The wood of *S. fimbriatum, D.C.*, is of similar structure. —*Wight; Gibson; Brandis; Beddome; Gamble.*

STEREOSPERMUM SUAVEOLENS. W. Ic.

Bignonia suaveolens, Roxb. A middle-sized tree, with pinnate leaves and paniced inflorescence, frequent in the Wallia jungles. It abounds in the Sunda forests in Southern India, is very rare in other Bombay forests, but is occasionally found in the Konkan, near temples, where it has evidently been planted for the sake of its beautiful flowers. The wood is dark-coloured, strong, and serviceable; is said by Dr. Wight to be elastic, and fitted for making bows. It grows in the south of Ceylon, in the neighbourhood of Buddhist temples. Its roots are much valued by the Singalese as a tonic medicine, and they attribute the same properties and give the same name (Palol) to those of *Spathodea adenophylla*, which is occasionally found in gardens. —*Wight; Cleghorn; Gibson; M. E. J. R.; Thwaites.*

STEREOSPERMUM XYLOCARPUM. Benth. *Bignonia xylocarpa, Roxb.* A deciduous tree of the Dekhan; sap-wood large, grey; heart-wood brown-coloured, very hard. —*Gamble.*

STERNINÆ, a sub-family of web-footed, long-winged birds, known as sea swallows and terns.

Kivi, . . . GOND. | Mach-louka (fish
Tehari, . . . HIND. | snatcher), . . . HIND.
Ganga chil (tjanges | Ramadasu, . . . TEL.
kite), . . . " | Samdrapu-kaka (sea-
crow), . . . " "

Terns spend the greater part of their lives on the wing, and always seek their food when flying.

i. Marsh Terns.

Sylochelidon caspius, Latham, Europe, Asia, Africa.

Syl. strenua, Gould, Australia.

Gelochelidon anglica, the *Sterna anglica*, gull-billed tern, inhabits the warmer regions of the old world, extending also to America, Java, and is common in India.

Hydrochelidon Indica, Stephens, Europe, Asia, Africa.

ii. River Terns.

Scena aurantia, Gray, Ceylon, Burma, S. China.

Sterna nirundo, Linn., or common tern of Europe, Asia, Africa, S. India, Ceylon.

St. Javanica, Horsf., all India.

St. paradisæ, Brunnich, or *Sterna Dougalli*, roseate tern of Europe, Asia, Africa, America, Australia, coasts of India.

St. minuta, Linn., is *Sternula minuta*, the lesser tern of northern hemisphere; replaced in South America and Australia by nearly allied species; common on the west coast and in parts of South India.

iii. Sea Terns.

Thalasseus cristatus, Stephens, Red Sea to China Sea.

Th. Bengalensis, Lesson, Red Sea to Bay of Bengal.

iv. Oceanic Terns.

Onychoprion melanauchen, Temm., Bay of Bengal to Australia.

O. anastæus, Scopoli, Red Sea, Indian Ocean.

O. serrata, Forster, Pacific Islands.

Anous stolidus, Linn., the noddy.

An. tenuirostris, Temm., white-headed noddy, Indian Ocean.

Rynchops albigollis, Swainson, all India.

—*Jerdon.*

STERNOCERA CHRYSIS. Its elytra are used in India in embroidering muslin.

STEVENSON, REVEREND J., D.D., chaplain of St. Andrew's Church, Bombay, who wrote on the Anti-Brahmanical Worship of the Hindus in Lond. As. Trans. vi. p. 239, viii. p. 330; on the Marathi Language, *ibid.* vii. p. 84; on the Modern Deities worshipped in the Dekhan, *ibid.* p. 105; on the Buddha-Vaishnavas of the Dekhan, *ibid.* p. 64; on the Intermixture of Buddhism with Brahmanism in the Religion of the Hindus of the Dekhan, *ibid.* p. 1; Analysis of the Ganesa Purna, *ibid.* xiii. p. 319; Remarks on the Relation between the Jain and Brahmanical Systems of Geography, Bom. As. Trans., 1847, ii. p. 411; on Specimens of Saurashtra Coins found near Junir, *ibid.* p. 377; on the Brahmanical Manner of Constructing their Images, *ibid.* p. 396; Translation of Buddha Inscriptions near Nasik, *ibid.* p. 452; Observations on the Grammatical Structure of the Vernacular Languages of India, *ibid.*, 1849, i. p. 171, 1850, iv. p. 1, vi. p. 196. He gave some comparative lists of words of the Indian languages, tracing analogies in the Mongolian, Celtic, and Hebrew tongues, and said there exists a great resemblance in the grammatical structure of the chief modern languages in the north and in the south of India, proofs of which he produced from the Hindi, Bengali,

Gujerati, Mahrati on the one side, and from Telugu, Carnatica, Tamil, and Singhalese on the other. He thinks that there is more agreement in construction with the Turkish than with the Sanskrit, so that he believed it likely that the original language of India may be the connecting link between what the Germans have called the Indo-Germanic family and the Turkish family of languages.—*Dr. Buist; Max Muller's Rep. Brit. Ass.*, 1847, p. 331.

STEWART, CHARLES, author of *History of Bengal to its Conquest by the English*, London 1813; also a *Descriptive Catalogue of the Oriental Library of the late Tipu Sultan*, with *Memoirs of Hyder Ali*.

STEWART, LIEUTENANT-GENERAL D. M., K.C.B., Bart., served on the frontier in 1854-55, was Deputy Assistant Adjutant-General at the siege of Delhi, and Assistant Adjutant-General of the army at the siege and capture of Lucknow, and throughout the subsequent operations in Rohilkhand. He also commanded the Bengal Brigade in the expedition to Abyssinia in 1867-68, was afterwards (1872-73) Chief Commissioner at the Andaman Islands, commanded the Lahore division, and in command of the Kandahar column of operations in the late Afghan campaign. He was several times mentioned in despatches, was created a Baronet of the United Kingdom, and appointed Commander-in-Chief of India.

ST'HALA. SANSK. Arid or dry land, which in the vernacular dialect becomes thul. It is the converse of the Greek oasis, denoting tracts particularly sterile. Each thul of the Indian desert has its distinct denomination, as the 'thul of Kawur,' the 'thul of Goga,' etc. Maristhali, from the Sanskrit Mri, to die, and St'hala, is a name of the desert of Rajputana. St'hali devata are deities of the soil.

ST'HAMBA or Lat, SANSK., is a monolithic pillar usually erected in front of a Hindu temple, whether Saiva, Vaishnava, Jaina, or Buddhist. They are of all ages, from B.C. 250 down to the most recent times. The Buddhist st'hambas bear the wheel representing Dharma or law or lions; the Saiva bear a trisula; the Vaishnava a figure of Garuda; and the Jaina a Chaumuktra or fourfold Tirthankara. Some of the finest of Buddhist lats were erected by Asoka, and bear his edicts or other inscriptions, but are not apparently in connection with any temple or other structure, or if so, these have long ago perished.—*Fergusson and Burg, Cave Temples of India*, p. 174.

ST'HAMBA PUJA, worship of the temporary posts erected for a marriage.

ST'HANA. SANSK. A place or station. St'han, t'han, st'hana, stan, istan, or estan, added to the name of a thing, expresses the place wherein it abounds or is contained; as Gulistan, a flower-garden or bed of roses; Hindustan, the country of the Hindus; Negaristan, a cabinet or gallery of pictures. St'hana, SANSK., the firm, a name of Siva.—*Oruseley's Travels*.

STHAVIRA, SANSK., or, in Pali, Thero, an elder of the Buddhist religion, a Buddhist priest.

ST'HANAM. SANSK., TAM., TEL. Bathing of the Hindus as a religious rite of purification. St'hanam abhiangana, amongst Hindus a ceremony on the wedding day, when the bride and bridegroom are anointed with oil.

STHUNA-KARNA, in Hindu mythology, a

Yaksha who is represented in the Mahabharata to have changed sexes for a while with Sikhandivi, daughter of Drupada.—*Dousson*.

ST'HUPA. SANSK. A Buddhist tumulus or tope, a mound, burrow, or funeral pile, a hemispherical shrine, or a tumulus erected over any of the sacred relics of Buddha, or on spots consecrated as the scenes of his acts. The st'hupa in Pali becomes stupo, and in Anglo-Indian phraseology tope. We thus hear constantly of the Bhilsa topes, and the Sarnath and the Sanchi topes. The word is from a Sanskrit root to heap, to erect. The st'hupa or dagoba or topes of India are monumental shrines or receptacles for the relics of Buddha, or for those of the Shavira or patriarchs of the sect, or to commemorate some historical event or legend. They consist of a cylindrical base supporting a hemispherical dome called the garbha. On the top of this was placed the Tee, a square stone box, usually solid, covered by a series of thin slabs, each projecting over the one below it, and with an umbrella raised over the whole. General Cunningham says the Pali form is Thupo, also Thupa or Thuva, in the early Aryan inscriptions from the Panjab. The term now used is Thup for a tolerably perfect building, and Thupi for a ruined mound. The great st'hupa or Buddhist monument of Manikyala was first made known by the journey of the Honourable Mount Stuart Elphinstone, and has since been explored by Generals Ventura and Court. The name is said to have been derived from Raja Man or Manik, who is said to have erected it. The pilgrim Fa Hian states that at two days' journey to the east of Taxila is the spot where Buddha gave his body to feed a starving tiger. But Sung-yun fixes the scene of this exploit at eight days' journey to the south-east of the capital of Gandhara, which is a very exact description of the bearing and distance of Manikyala, either from Peshawur or from Hashtnagar. General Cunningham has identified the great st'hupa of the 'body-offering' with the monument that was opened by General Court, which, according to the inscription found inside, was built in the year 20, during the reign of the great Indo-Scythian prince Kanishka, shortly before the beginning of the Christian era. Manikyala was therefore one of the most famous places in the Panjab at a very early period; but he thinks that it must have been the site of a number of large religious establishments rather than that of a great city. The people are unanimous in their statements that the city was destroyed by fire; and this belief, whether based on tradition or conviction, is corroborated by the quantities of charcoal and ashes which are found amongst all the ruined buildings. It was also amply confirmed by the excavations which he made in the great monastery to the north of General Court's tope. He found the plaster of the walls blackened by fire, and the wrought blocks of kankar limestone turned into quicklime. The pine timbers of the roofs also were easily recognised by their charred fragments and ashes. General Cunningham discovered nothing during his researches that offered any clue to the probable period of the destruction of these buildings; but as this part of the country had fallen into the power of the Kashmirian kings even before the time of Hiwen Thsang, he was inclined to

attribute their destruction rather to Brahmanical malignity than to Muhammadan intolerance. Vaissali is supposed by General Cunningham to lie to the east of the Gandak, where we find the village of Besarh, with an old ruined fort which is still called Raja-Bisal-ka-garh, or the fort of Raja Visala, who was the reputed founder of the ancient Vaissali. The ruined fort of Besarh thus presents such a perfect coincidence of name, position, and dimensions with the ancient city of Vaissali, that there can be no reasonable doubt of their identity. In one of the Buddhist legends quoted by Burnouf, Buddha proceeds with Ananda to the Chapala st'hupa, and, seating himself under a tree, thus addresses his disciple: 'How beautiful, O Ananda, is the city of Vaissali, the land of the Vriji,' etc.—*Ferg. and Burg.* p. 18.

STILLINGIA SEBIFERA. *Willd., Micheaux.*

Sapium sebiferum, <i>Roxb.</i>	Croton sebiferum, <i>Linn.</i>
Chelat pipal, . . . <i>BENG.</i>	Kiung-shu, . . . <i>CHIN.</i>
Mom China,	China tallow tree, <i>Eng.</i>
Wu-kiu-muh, . . . <i>CHIN.</i>	Pipal yang, . . . <i>HIND.</i>
Ya-kiu,	"

The Tallow.

Kim-yu, Mu-yu, . . *CHIN.* | Peh-yu, Hieh-yu, *CHIN.*

It receives its Chinese name from the fondness of the cow for its leaves. It grows nearly all over China and Formosa, and has been introduced into India. Its aspen-like yellow foliage becomes of a brilliant red colour in autumn and winter. The three-seeded berries dehisce when ripe, disclosing the kernels enveloped with the coat of vegetable fat, which renders the tree so valuable. The leaves yield a black dye with sulphate of iron. This fatty tallow substance is of a whitish colour, hard, and tasteless. The ripe nuts are bruised, and the pericarp separated by sifting. They are then steamed in wooden cylinders, with numerous holes in the bottoms, which fit upon kettles or boilers. The tallow is softened by this process, and is separated from the albumen of the seeds by gently beating them with stone mallets, after which the tallow is effectually removed by sifting the mass through hot sieves. The tallow still contains the brown testa of the seeds, which is separated by pouring it into a cylinder made up of straw rings laid one on top of the other, in which it is put into a rude press, and the tallow is squeezed through in a pure state. A pikul of seeds (133½ lbs.) yields from 20 to 30 catties of tallow, besides the oil which is obtained from the albumen by grinding, steaming, and pressing it subsequently. The vegetable tallow melts at 104°, and is composed mainly of tripalmitine. To make candles, it is mixed with white insect wax in the proportion of three mace of wax to ten catties of the tallow. The candles are largely used in Buddhist ceremonies. In China the average price is about eight Mexican dollars per pikul. Cases of poisoning in China are generally treated with the tallow or the oil of the albumen, but the latter generally comes up. The tallow is also used in ointments, and the candle refuse as suppositories. The refuse of the husks and seeds is used as manure for the tobacco fields.—*Smith, Mat. Med. Chin.*

STINKING-WOOD. *Eng., Chee neb, BURM.,* is abundant in Tavoy and Mergui. The flowers have an intolerably fetid, sickening smell; hence its name. It is used by the Burmese for boxes,

tables, etc., and is a long-fibred, tough wood when new, but rots readily. The stink tree of Ceylon was called by the Dutch Strunt-hout, and by the Singhalese Urenne, on account of its disgusting odour, especially in the thick stem and the larger branches, resembling that of human ordure. Thunberg says the tree was neither the *Anagyris fetida* nor the *Sterculia foetida*.—*Capt. Dance; Thunberg's Tr.* iv. p. 234.

STIPA, a genus of grasses belonging to the tribe Stipaceæ. *Stipa tenacissima*, the esparto of the Spaniards, the halfa of Northern Africa, is used in the manufacture of paper, yields a sure crop, independent of the weather, and exempt from the attacks of locusts.

STIZOLOBIUM ALTISSIMUM. Assam bean; Kalee seem, *DUKH.* This bean is grown like most others, and may be first sown at the commencement of the rains, and continued during the cold season.—*Riddell.*

STOCKS, an officer of the Bombay Medical Service, an eminent botanist. His extremely valuable collections from Sind and Baluchistan amounted to about 1500 species. He was Conservator of Forests in Sind, and distinguished himself by his researches in the flora of that region. He died at Cottesingham on the 30th August 1857, aged 34.—*H. et T.; Bom. As. Trans.* ii. p. 390: *Dr. Buist.*

STOCQUELER, J. H., author of *Fifteen Months' Pilgrimage through Untrodden Tracts in Kurdistan and Persia, 1831-32.*—*Dr. Buist.*

STONE.

Hajar,	ARAB.	Lapis,	LAT.
Steen,	DAN., DUT.	Piedra,	PORT.
Pierre,	FR.	Kamen,	RUS.
Stein,	GER.	Piedra,	SP.
Petros,	GR.	Sten,	SW.
Sang, Pathar, . . .	HIND.	Rai, Kaller, . . .	TAM.
Pietra,	IT.	Tash,	TURK.

Stones of every kind, suitable for architecture, sculpture, or ornament, are obtainable in different parts of India, as the red sandstone in the vicinity of Delhi; the slates, limestones, and marbles of the Nerbadda, and of the valleys of the Godavery and Kistna; basalt and basaltic greenstones are used in the Hindu temples; and the marble of Burma is largely sculptured for the figures of Gautama; the Hubba Hills, near Bhooj, yield stone which is employed as a substitute for marble; soapstone is found in many parts of British India, Burma, and China, and is carved into numerous figures; the sandstones of the Kymore range are used as flagstones, and for ornamental purposes; the millstones of Chynepore, Sasseram, Tilowhoo, and Akbarpur, are famous; the Sone causeway and the Koylwan railway bridge, are built of the dense sandstone of Sasseram; little quantities are found in the higher portions of the range, towards Rohtas; but the best stone, while easily workable, is almost as hard as granite, and may be had of any colour, viz. white, crystalline, blue, grey, and all shades to a dark red.

Stone implements have been largely found in India. Chipped flints, agates, jaspers, and chalcedonies have been found by Lieut. Sweney near Jubbulpur. Others of flint were found by Mr. Blanford near Nagpur and near Lingoesagoor. Flint (chert), agate, and chalcedony knives resembling those of Mexico, arrow-heads, etc., were found by Surgeon Primrose. Stones have been used for recording edicts, laws, and moral codes.

Moses wrote on stone tablets the Ten Commandments. In the Confucian temple at Peking are ten stones shaped like drums, on each of which are engraved stanzas of poetry. These stone drums are said to have been in existence since the days of Yaou and Shun, who flourished, the former B.C. 2857, and the latter B.C. 2255. The king Asoka, who was a follower of Buddha, had his edicts engraved on rocks, where they are still to be seen.—Gray, p. 93. See Sculpture.

STONE-CUTTING. The seal-engraver's wheel consists of a light frame ballasted below to keep it firm, with two uprights about eighteen inches in length and eight inches between. Betwixt the two is a small spindle. This turns at the one end on a screw or pivot, sometimes of cornelian; the shoulder is kept in its place by a neat iron clamp, it is steadied by a piece of rag wrapped round it, and enclosed in the collar. The spindle is terminated by a small spike of iron of about an inch long, ending in a little circular saw or button, from a tenth up to half an inch in diameter. To this, powdered corundum mixed with oil is from time to time applied, while it is spun round with a bow. The engraver holds the seal up betwixt his fingers and thumb, and a sweep or two of the bow causes a mark on the seal. This is deepened and extended as desired, the larger discs being employed for long straight strokes. The work turned out is by no means very fine, but the celerity of execution is surpassing. Diamond dust is very rarely used in India, corundum being the chief material employed in polishing gems, marbles, and metals. For sharpening swords or burnishing metal, it is generally used like a whetstone or burnisher; for polishing gems, it is either made up into a lap with lac or into a paste with oil or grease. For polishing marble or other stone it is used in two forms; the first of these is a cake of about eight inches long, three across, and two deep. This is used by an individual in the hand. For heavier purposes, a cake a foot square or so is employed, placed in a frame. Two men work at this, and the reducing process is very rapidly accomplished by it; it is, in fact, a file with a lac body and corundum teeth. The diamonds seen amongst native gentry are almost all cut in Europe, and the principal gems cut in India are the lapis-lazuli, rubies, emeralds, opals, garnets, and siliceous gems. The chief articles into which these are wrought are paper-weights, knife-handles, miniature-sized cups and saucers, tables for snuff-boxes, brooches, necklaces, bracelets, pins, buttons, and studs. The polish of Cambay stones is not such as pleases the eye of the British lapidary; yet they are so cheap that they might be expected to become a considerable article of commerce. They might be built up into mosaics for work-tables, into chess-boards, and other elegant articles of furniture,—the chief part of the work being performed here, where labour is cheap, the final finish being given at home. The Cambay agates equal the finest Scotch pebbles in beauty; they generally exceed them in size, and may be had for a mere fraction of the price.

Working in stone, polishing the hardest surfaces, engraving the surfaces with imperishable records, and sculpturing stone into various forms, even excavating gigantic temples out of the solid mountains, are branches of sculpture, statuary, and engraving to which Hindus have paid at-

tention from the earliest times; and their structures are conspicuous for the exquisite polish and glass-like appearance of some of the hardest rocks. They use a small steel chisel and an iron mallet. The chisel, in length, is not more than six inches, and it tapers to a round point like a pencil. The iron mallet does not weigh more than a few pounds. It has a head fixed on at right angles to the handle, with only one striking face, which is formed into a tolerably deep hollow, and lined with lead. With such simple instruments they formed, fashioned, and scooped the granite rock which forms the stupendous fortress of Dowlatabad, and excavated the wonderful caverns of Ellora and Ajunta. The traces of the pointed chisel are still visible on the rocks of Dowlatabad, as they are also on some of the works of Egypt. The stone having been brought to a smooth surface, it is next dressed with water in the usual way, and is then polished in the following manner:—A block of granite, of considerable size, is rudely fashioned into a shape like the end of a large pestle. The lower face of this is hollowed out into a cavity, and this is filled with a mass composed of pounded corundum stone, mixed with melted lac. This block is moved by means of two sticks, or pieces of bamboo, placed on each side of its neck, and bound together by cords, twisted and tightened by sticks. The weight of the whole is such as two workmen can easily manage. They seat themselves upon, or close to, the stone they are to polish, and by moving the block backwards and forwards between them, the polish is given by the friction of the mass of lac and corundum. The same materials are employed in polishing agate beads and bracelets, elegantly-shaped cups, or models of cannon. The agate stones are first fixed on a steel spike, and there roughly rounded with an iron hammer, and then polished with a composition of lac and corundum variously applied. The holes are bored with a steel drill, tipped with a small diamond. Cups and saucers, and similar hollow articles, are wrought, according to the required external shape, on the steel spike, and a rough polish given on the rough polishing-stones. The cavity is formed by the diamond-tipped drill to the depth of one-fourth of an inch all over the space, until it exhibits a honeycombed appearance; the prominent places round the holes are then chipped away, and this process is repeated until the depth and form desired are obtained. They are then polished upon prepared moulds of convex forms, and of the same composition as the polishing-plates which are attached to the turning-wheel.

STONE-WORSHIP. Stones have been objects of worship of all nations, and are largely so by the Hindus, generally smeared with red lead.

Amongst the earliest mention of this form of devotion will be found notices in several parts of the Hebrew Scriptures, under the appellations of images and groves, but these are very obscure. The Phœnicians worshipped a deity under the form of an unshaped stone. The Arabs, down to the time of Mahomed, worshipped a black stone, which is now let into the wall of the Kaba. There was a sacred stone in Jura, round which the people used to move deasil, i.e. sunwise. In some of the Hebrides the people attributed oracular power to a large black stone.

Baber in his *Memoirs*, p. 450, describes how, in the battle of Jam, at sunrise, the magicians set to work with their magic stone to create confusion amongst the Persians. In spite of three centuries of Muhammadan teaching, the magic stone still keeps up its reputation among the nomades of Central Asia. The sirdar (chief) of a razzia of Turkomans, or the leader of a Kirghiz baranti, to this day carries it carefully with him, and in case of the deadly bite of a viper or a scorpion, its efficiency is valued as highly as that of a fatiha prayer from the Koran.

Stonehenge is a circle of stones in England, of Buddhist architecture, and is own brother to the circle of upright stones at Amravati on the Kistna, and to many others in the south of India. The Stone of Destiny, on which the kings of Ireland were crowned, was afterwards taken to Scone, and thence carried to Westminster, and placed under the old coronation chair, where it still remains. Seating a king on a stone seems to have prevailed throughout Europe on inauguration. Monarchs of Sweden were seated upon a stone placed in the centre of twelve lesser ones, and the kings of Denmark were crowned in a similar kind of circle. The use of the Inaugural Stone is of Canaanitish origin. Abimelech was made king by the plain of the pillar of Shechem. Jehoash was anointed as he stood by the pillar, as the manner was. The Gael used the standing stone, which was traditionally considered a supernatural sacred witness of any solemn covenant, and especially of that between an elected king and his people. Jack Cade touched London stone, and exclaimed, 'Now is Mortimer lord of London city!' Amongst the Irish, the inauguration of a chief was celebrated at a stone with the impression of two feet, believed to be the size of the feet of the patriarch chieftain who first acquired the territory. Every great tribe had its installation stone and other specialities, such as sacred trees, and rath-hills or entrenched places of meeting, dedicated to the inaugural rite. Herodotus shows that the practice of carving the impression of the feet of mighty heroes on huge stones was older than his time, as he mentions that the Scythians showed the mark of the foot of Hercules upon a rock. Spenser, the poet, writes that some of the stones on which the chief lords or captains of the clan were placed had a foot engraven, which was regarded as the measure of their first captain's foot. On inauguration, the new chief stood thereon, and took oath to preserve all the former customs of the country inviolable. His feet were placed in the impression while the heads of law relating to the clan were read to him.

Stones from the beds of Indian rivers are the usual gramma devata or village deities of the Hindus, and also of the non-Aryan castes, who are not permitted to enter the Hindu temples. The salagrama, a fossil ammonite from the Gandak river, is worshipped by all Vaishnava Hindus.

Stone monoliths are erected as memorials by the Kol and Khassya races. In Kanawar villages in the Himalaya, a stone is set up as a pillar in the fields, its centre and top smeared with whitewash, and the top marked with five finger-marks of red ochre; on this flowers are offered for the prosperity of the field. In S. India, white lime-washed splinters of stone, tipped with red, are placed under the trees in a garden or field. The Asaga of Mysore worship a god called

Bhuma Deva, literally earth-god, who is represented by a shapeless stone. The worship of stones is spread over all parts of the district from Berar to the extreme east of Bustar, and that not merely among the Hinduized aborigines, who have begun to honour Kandoba, etc., but among the rudest and most savage tribes. He is generally adored in the form of an unshapely stone covered with vermillion. Two rude slave castes in Tulava, in Southern India, the Bakadara and Betadara, worship a benevolent deity named Buta, represented by a stone kept in every house. Indeed, in every part of Southern India, four or five stones may often be seen in the ryot's field, placed in a row and daubed with red paint, which they consider as guardians of the field, and call the five Pandu. Colonel Forbes Leslie supposes that this red paint is intended to represent blood. The god of each Khond village is represented by three stones. Aerolites are worshipped by Hindus.

Stones are revered by the Karen; their selection of them is fanciful. At Benkumat in the Lampong country, there is a long stone, standing on a flat one, supposed by the people to possess extraordinary power of virtue. It is reported to have been once thrown down into the water and to have raised itself again into its original position, agitating the elements at the same time with a prodigious storm. To approach it without respect, they believe to be the source of misfortune to the offender.

The shape of the Polynesian stones, the reverence paid to them, their decoration, and the results expected from their worship, are quite in accordance with a widely-spread superstition. Turner had in his possession several smooth stones from the New Hebrides. He says that some of the Polynesian stone gods were supposed to cause fecundity in pigs. Two large stones, lying at the bottom of a moat, are said to have given birth to Degei, the supreme god of Fiji. In all instances, an addition to objects already existing was expected from the Fiji monoliths. A stone near Baw existed, which, whenever a lady of rank at the Fiji capital was confined, was fabled also to give birth to a little stone.—*Galton's Vacation Tourists*, p. 273; *Vambery, Bokhara*, p. 299; *Lubbock's Origin of Civil*, pp. 207-210, 244.

STONING is regarded by Semitic races as the most infamous of deaths. It is the rajm of the Arabs, and their rajim is an execrating epithet for the devil. One of the ceremonies of the Haj is to cast stones towards Mount Arafat, an act expressive of their utter detestation of the devil.

STORAX.

Maynh,	ARAB.	Styrax broom, . .	GER.
Su-hoh-hiang, . .	CHIN.	<i>serget</i> ,	GR.
Su-hoh-yu, . . .	"	Storace,	IT.
Fung-hiang-chi, . .	"	Styrax,	LAT.
Peh-kiau-hiang, . .	"	Azumbar,	SP.

A gum-resin, the produce of *Styrax officinale*, growing in the south of Europe and the Levant. It is usually met with in tears, which is pure; and in lumps or red storax, which is mixed with sawdust and other impurities. Storax has a fragrant odour, and a pleasant, sub-acidulous, slightly pungent, and aromatic taste; it is of a reddish-brown colour, and brittle.

The Chinese names refer to several resinous or balsamic substances, used internally, and externally in plasters.

STORAX, LIQUID, *Rose malloes*.

Mayah, Sailah, . . . ARAB. | *Rasa-mala*, . . . MALAY.
Sillarua, . . . HIND. ?

Liquid storax is obtained from the Liquidamber altingia. It is more or less opaque, of the consistence of birdlime, greyish colour, warm balsamic taste, and peculiar vanilla-like odour, if pure. Small quantities are imported annually into India from Suez and the Arabian Gulf in skins; it is re-exported to England and China under the designations of *Rose malloes* (*Rasa-mala*) and *Sillarua*, in barrels of about four imperial gallons' capacity each.—*Faulkner*.

STORKS. Naturalists arrange storks under the family Ciconiidae, tribe Culirostreres, and the genera Ciconia, Leptoptilos, and Mycteria.

The storks are more extensively distributed than the cranes, being represented in every part of the world, except in North America, where no member of the group occurs. They are more or less carnivorous in their habits, and are armed with a powerful beak, which attains its largest development in the adjutants and the Baleniceps. The white stork, *Ciconia alba*, is one of the most familiarly known species of European birds, although in England it has, from the changes effected by improved agriculture, become comparatively rare. It is widely distributed throughout the Old World, being found in North Africa, and in Asia as far as Bengal.

The species of the East Indies are as under:—

- Ciconia alba*, *Belon*, Europe, Africa, and Asia.
C. leucocephala, *Gmelin*, all India, Burma, and Archipelago.
C. nigra, *Linna.*, Northern India, Panjab, Dekhan.
Leptoptilos argala, *Linna.*, N. and N.E. India, Bengal, and Hyderabad.
L. Javanica, *Horsfield*, S. India, Bengal, Assam, Sylhet, Burma.
Mycteria Australis, *Shaw*, all India, Malayana, Australia.

L. argala is the gigantic stork or adjutant bird of Europeans; *L. Javanica*, the small adjutant or hair-crested stork; *M. Australis* is the black-necked stork. *Ciconia alba*, *C. leucocephala*, and *C. nigra* are the white, white-necked, and black storks.—*Jerdon*.

STORM-WAVES occur on some part or other of the coasts of S. India every few years, sweeping over the land and destroying in great numbers the people and their cattle; the western coast of the Peninsula about the northern part of the Bombay Presidency, the eastern part about Masulipatam, Vizagapatam, and Orissa, and the islands of the Gangetic Delta, have been repeatedly overwhelmed.

On the 19th May 1787, the sea rose nearly 15 feet, and inundated Coringa, when 20,000 people and 500,000 cattle perished. Again, in 1789, Coringa was deluged by three enormous waves, following in slow succession, the third of them sweeping everything before it. See Cyclone; Delta.

STRABO, an ancient geographer who lived about the beginning of the Christian era, and in the time of the emperor Tiberius. He travelled between Armenia and Sardinia, and from the Black Sea to Ethiopia, and was the author of some historical works; but his Geography in seventeen volumes is alone extant. It treats on all the then known world; amongst other parts, of the south

of Asia, Ceylon, and India, interspersed with many philosophical remarks, and short narratives relating to history and antiquities.

STRACHEY. Several civil and military officers of this name have added to our knowledge of British India.

Edward Strachey, Bengal Civil Service, editor of the *Bija Ganita*.

Lt.-Col. Henry Strachey, author of *Narrative of a Journey to the lakes Cho-Lagan or Rakas Tal*, and *Cho-Mapan or Manasarowara*, and the Valley of Pruang in Tibet in 1846, 8vo, Calcutta 1848; on the Frontier of Kamaon and Garhwal. He mentions that Manasarowara discharges its waters through a gravel bank into Rakas Tal, which again sends off a tributary to the Sutlej.

Sir John and General Richard Strachey wrote jointly on the Finances and Public Works of India for 1869 to 1881.

General Richard Strachey, an officer of the Bengal Engineers, wrote on the Physical Geography of the Provinces of Garhwal and Kamaon, in the Himalaya Mountains, in *Lond. Geo. Trans.*, 1851, xxi, 57; on the Glaciers of the Pindur and Kuphinee Rivers, in the *Kamaon Himalayas*, *Edin. New Phil. Jour.*, 1847-48, xlv, 108; *A Trip to the Niti Pass*, 1849, in *Bl. As. Trans.*, 1850; on the Snow Line of the Himalayas, *ibid.*, 1849, xviii, 287; *Notes on Investigations near Kamaon*, *ibid.*, 240; *Geography of Kamaon*, *ibid.*, 1851; *Horary Barometrical Observations at 11,000 feet above the level of the sea; On the Tertiary Formations of the Himalayas*, *Rep. Brit. As.*, 1851. He was appointed by the Indian Government to make a scientific survey of the province of Kamaon, and was occupied on the task about two years, during which time, in addition to the important investigations in physical science which occupied his attention, he thoroughly explored the flora of the province, carefully noting the range of each species. He was joined by Mr. Winterbottom in 1848, and they travelled together in Tibet. Their joint collections, amounting to 2000 species, were distributed in 1852-53 to the Hookerian Herbarium, the British Museum, the Linnean Society, and some foreign museums.—*B. As. Soc. J.*, 1848; *Dr. Bui-t*; *British Museum*.

STRACHIA GEOMETRICA, a bug of a yellowish coffee colour, but marked with grey and orange on the upper side, found at Badulla in Ceylon. It feeds upon the juice of the young coffee berries, 3 per cent. or more of which were said to have suffered from it. It is allied to the green or fetid bug, but though it may occasionally cause destruction, there is no fear of it ever becoming a serious nuisance.

STRAIT OF JUBAL, at the entrance of the Gulf of Suez, 50 miles broad, extends from Ras Muhammad to Tur Harbour.—*Findlay*.

STRAIT OF SUNDA, one of the great portals of the Eastern Archipelago, is 63 miles wide between the south-western extremity of Sumatra and Java Head, but the main strait is narrowed to 51 miles by Princes Island. The most eastern rock is lat. 6° 41' 13" S., and long. 1° 36' 20" W.—*Findlay*.

STRAITS OF BANCA is rather more than 100 miles long, and in the narrowest part seven miles from shore to shore. The Straits of Banca, between that island and Sumatra, is the most frequented in the Indian Seas.

STRAITS SETTLEMENTS, on the northern boundary of the Straits of Malacca, include under one government, Penang, Province Wellesley, the Ding Dings, Malacca, and Singapore, and were incorporated in one Administration in 1826. These settlements ceased to be connected with India on 1st February 1867, when they became a Crown colony. The inhabitants in 1871 were returned—

Singapore, 97,111	Penang and Province
Malacca, 77,766	Wellesley, . . . 133,230

The census taken in 1881 gives the total population of the Straits Settlements as 423,384, of which 1656 are resident Europeans and Americans, 174,327 Chinese, 238,066 Malays and other Asiatics, 316 Jews and Armenians, and 6904 Eurasians. A rapid increase is taking place in the actual numbers of Chinese, as well as in the proportion they bear to the whole population; and it is remarked that the numbers of Chinese women, though still only 127 in the 1000, has increased in the last ten years. In 1871 the proportion was 107 per 1000.

The inhabitants of Malacca and Province Wellesley consist chiefly of Malays and Chinese, with scarcely civilised tribes of Jakun, Binua, and Semang.

Penang is a beautifully-wooded island, situated at the north-western entrance of the Straits of Malacca, or in about lat. 5° 25' N., and long. 100° 21' E., and is about 13½ miles long, with an extreme breadth of 10 miles, containing an area of nearly 70,000 acres.

Penang was obtained in 1786 by treaty from the king of Quedah; and fourteen years later, Province Wellesley was ceded by the same prince. In 1881, its population, with Province Wellesley, numbered 190,597, viz. Malays, 84,724; Chinese, 67,502; Tamils, 25,094; Europeans and Eurasians, 2271; Arabs, 574; Armenians and Jews, each 32.

Malacca has a sea frontage of forty-three miles, with a depth of ten to twenty-eight miles. The town is in lat. 2° 16' N. Its population, 93,579. Amongst them, Malays, 67,488; Chinese, 19,741; Europeans, 40; Eurasians, 2213.

Malacca, conquered by Albuquerque for the Portuguese about 1515, fell into the hands of the Dutch in the beginning of the 17th century, but was taken by the British in 1795. They kept it until, in 1818, it was redelivered to the Dutch under the provisions of the treaty of Vienna, but it again reverted to the British by the treaty of 1824.

Singapore island is twenty-four miles long by fourteen broad, and contains an area of 206 square miles. The town is in lat. 1° 17' N., and long. 103° 51' E. Singapore has never changed European owners. In 1819, Sir Stamford Raffles, then governor of Fort Marlborough, or Bencoolen, in Sumatra, who had been long impressed with the importance of the position, took formal possession of the then nearly uninhabited island. Population, 139,208. Amongst others, Chinese, 86,766; Malays, 22,114; Europeans, with military, and Eurasians, 5862.

Province Wellesley is on the mainland of the peninsula, immediately opposite Penang, the water dividing them being about three miles broad at the narrowest point. It runs from north to south twenty-five miles, varying in breadth from four to eleven miles, and containing an area of 15,000 acres.

STRAMONIUM, Thorn apple.

Masil, Methel, . . . ARAB.	Datura, HIND.
Jouz masil, „	Datura stramonium, LAT.

These names are given to several species of *Datura*; all parts are poisonous. The leaves are used in asthma, for smoking.

STRANGE, SIR THOMAS, Judge of the High Courts of Madras and Bengal, and his son, Thomas Lumsden Strange, Judge of the Sadr Adawlat Court of Madras, authors of books on Hindu Law; that of the son, called a Digest of Hindu Laws, was compiled partly from the smaller work on the same subject by his father, and partly from other eminent authorities, but amplified and elucidated by his own investigations.

STRANGERS' HOME FOR ASIATICS was established in London in 1859. It offers to Indian sailors and other orientals, a comfortable and respectable lodging, with wholesome food, at a cost which shall render the institution self-supporting. Each lodger is to pay not less than 8s. per week, for which the lodger will be supplied with three meals a day, medical attendance, baths, washing, etc. Arrangements have been made to take charge of their money and other property, to make remittances to their families and friends, to give them advice, and afford them information, to protect them from imposition, to procure them employment in vessels.

STRAW.

Tibn, Kash, Alaf, . . . ARAB.	Paglia, IT.
Straa, DAN.	Palla, PORT.
Stroo, DUT.	Soloma, RUS.
Paille, FR.	Paja, SP.
Stroh, GER.	Strä, SW.
Fral, HIND.	Sup, TURK.

Straw is used for thatch, for the forage of horned cattle, for veneering in Japan, and for straw-plait for the bonnets of the women of Europe.

STRAWBERRY is the English name of the plant and fruit of species of *Fragaria*, of which there are many,—

F. Bonariensis, Juss., Buenos Ayres.
F. Chilensis, Ehrh., South America.
F. collina, — ? Switzerland, Germany, hill strawberry.
F. elatior, Ehrh., America, hautboy.
F. grandiflora, Ehrh., Surinam.
F. Indica, Andr., mountains of India.
F. majaufera, — ? France.
F. monophylla, Duchesne.
F. nubicola, Wall., Himalaya.
F. Roxburghii, W. and A., Khasya, Assam.
F. vesca, Linn., cultivated.
F. Virginiana, Linn., North America.

Species occur in India both wild and cultivated; *F. Chilensis*, Ehrh., the Chili strawberry, was brought from South America. *F. collina* is also an introduced plant. *F. elatior*, Ehrh., is the hautboy strawberry from America; and *F. grandiflora* and *F. majaufera* are also known, as also *F. Roxburghii*, W. and A., the *F. Indica* and Malay of Roxburgh, which has also been classed with *Duchesnea* and *Potentilla*, growing in the Neilgherries, Dehra Doon, and Kamaon.

Fragaria vesca, Linn.

Paljor, OHENAB.	Tash, KANGRA.
Wild strawberry, . . . ENG.	Frago, LAT.
Wood strawberry, . . . „	Bunun, also Musirini, KAVI.
Kanzar, JHELM.	Bana-phal, . . . SUTLEJ.
Ingrach, Yan, . KANGRA.	Tawai, . . . TRANS-INDUS.

This grows wild in most parts of the Panjab

Himalaya, from 4000 to 12,000 feet. The fruit is excellent when gathered dry, but is largely improved by cultivation. It is cultivated by Europeans and market gardeners, and in the Bombay Dekhan a bed of a few square yards brings in from £15 to £20 the season. In Bangalore, it is grown abundantly. The strawberry plant multiplies itself from runners and suckers; the old plant, after it has ceased bearing, throwing them out. In the Dekhan, as soon as the rains have set in, these runners may be removed into a nursery-bed, for their being more easily looked after, and should have the space of 9 or 10 inches allowed between them; they will throw out other runners, the whole of which may be separated and transplanted at the proper season. They thrive best in a light soil with good old stable and vegetable manure at first, and as soon as they show a disposition to flower, may have old goats' or sheep's manure added around each plant, a couple of double handfuls being sufficient. In no part of the Dekhan should the plants be put out for fruiting before the close of the rains, the latter part of September being quite early enough. Suckers planted for experiment at the commencement of August, grew to a good size, and did nothing for ten or twelve weeks but throw out suckers, which were continually removed, but, after all, fruited badly. The finest and most prolific crop was got from suckers put out in the beginning of October. Some strawberries were gathered in November from the plants put out in August, but they were so few as in no way to induce a trial of the experiment again. Varieties can only be procured from seed; and to procure the seed, select the finest ripe fruit, rub it on a sheet of paper, and dry it. When the rains commence, soak the seed in water, reject all that float, the remainder sow in baskets in a light loam, when they will be fit to remove in about six weeks, and should be put in other baskets four or five inches apart, and taken care of until ready to be transplanted into the beds where they are to remain. As these plants throw out suckers very fast, they must be constantly looked after, and removed. They will commence bearing in six months from the time of sowing the seed. As soon as the rains have ceased, put the suckers that have rooted into square beds, each not less than one foot apart, five in a row; this will give twenty-five in each bed,—as many as can be easily looked after and gathered without trampling on the bed, and thereby injuring the plants. When the earth is of a clayey consistence, Dr. Riddell has seen the strawberry cultivated on ridges. Some think this is a good plan, but he prefers the beds. It is sometimes necessary, in consequence of flooding the beds, to put tiles under the fruit to keep it clean, but it also attracts the notice of the birds. If straw or grass be used, then the chances are that white ants destroy the plants. This it is that makes some persons prefer the ridge system of growing, as they say the fruit is cleaner in consequence. Fine fruit may be grown either way; and if on ridges, the same distance must be allowed between the plants as in beds, and even in the latter the plants may be put on raised cones of earth. The common vegetable manure is all that is required at first until near flowering, when a handful or two of goats' or sheep's dung should be put round the plant, opening the earth, and

scrapping it together. Water during the evening and very early in the morning.—*Drs. Birdwood, Cleghorn, Stewart, Riddell, Hooker, and Hogg.*

STRI-HARIKOTTAH MUTTAH, a small forest tract on the north of Madras.

STRIPERMATUR or Sri Perumbudur, lat. 12° 58' N., and long. 79° 56' E., in the Carnatic, 27 miles west of Madras; properly Stripermatur.

STRIVIGUNTUM, an anicut across the Tambrapurney river, in Tinnevely, about 16 miles from the sea, provides irrigation for 32,000 acres. There are other seven anicuts across the bed of the river.

STROBILANTHES, a genus of plants of the order Acanthaceæ, which grow in the Khasya Hills, Nepal, Nagpur, and Ceylon. In Ceylon, species of Strobilanthes, the Nilu plant, are used as sticks to put in mud walls. Fourteen species of Strobilanthes grow abundantly in the mountain ranges of Ceylon. The golunda rats feed on the seeds, also the jungle-fowl, whose eyes are said to become affected from it.—*Tennent's Ceylon*, p. 30; *Ferguson*.

STROMBOSIA CEYLANICA. *Gardn.*

Spharocarya leprosa, *Dalz.* | S. Javanica, *Thw.*

A large timber tree of Ceylon and the Canara Ghats. The wood is white and durable. S. Javanica, *Blume*, a closely-allied species.—*Beddome, Fl. Syl.*

STRUTHIONIDÆ, the Ostrich family.

Naam, Naamah, . . .	ARAB.	Strutho-camelos, . . .	GER.
Thar-ud-jemmel, . . .	"	Struzzo, Struzzulo, . . .	IT.
Autruche, . . .	FR.	Struthio camelus, . . .	LAT.
Strausse, . . .	GER.	Shutr-murgh, . . .	PERS.

A family of birds of great size, which may be thus shown,—

Fam. I. Struthionidæ.

a. Struthioninæ.

Struthio camelus, Africa.

Rhea Americana, Rep. Argentine.

R. macrorhynchos, Rep. Argentine.

R. Darwinii, Patagonia.

b. Casuariinæ.

Casuarus galeatus, Ceram.

C. bicarunculatus, Aru.

O. Knappi, Salawatty, New Guinea.

C. uniappendiculatus, —?

C. Bonnetii, New Britain.

C. Australis, New Holland.

Fam. II. Apterygidæ.

Apteryx Australia, New Zealand.

A. Mantelli, New Zealand.

A. Owenii, New Zealand.

A. maxima, New Zealand.

The distribution throughout the world of the struthious birds has this peculiarity, that each region which they inhabit has a separate form. The ostrich is found only in Africa, the three known species of rhea only in S. America, the emu only in Australasia, and the casuaris only in the Moluccas and adjacent islands.

The common casowary is *Casuarus galeatus*; Kaup's casowary is *Casuarus Kaupi*. Casowaries are usually wild and difficult to manage, and very rarely breed in captivity. The male takes sole charge of the duties of incubation.

The common casowary is only found in Ceram, is replaced in the Aru Islands by another species (the *Casuarus bicarunculatus*), distinguished by having the caruncles on the throat widely separated, and in Northern Australia by a third species. Kaup's casowary is peculiar to New Guinea, where

a second species of the genus, with only a single throat-wattle (*C. uniappendiculatus*), also occurs.

The southern apteryx is *A. Australis*, Mantell's apteryx is *A. Mantelli*, and Owen's apteryx, *A. Owenii*. See Ostrich.

STRYCHNOS, a genus of tropical plants. *S. colubrina*, *Linn.*, in the hot, drier parts of Ceylon; *S. minor*, *Blume*, at an elevation of 6000 feet, Ceylon; *S. nux vomica*. *S. bicirrhosa*, *Lesch.*, is a native of Tanjore; *S. lucida*, *R. Br.*, is from tropical New Holland; *S. Madagascariensis*, *Pet. Th.*, is of Madagascar; *S. axillaris* is of the Khassya Hills, and *S. monogynus*, *Roxb.*, in Sylhet. *Στρούχνος* was a name applied by Theophrastus and Dioscorides to a kind of nightshade, but adopted by Linnæus for this genus of the Apocynaceæ. One species is used in ordeals at Gaboon, in Africa, under the name of Cusa or Icaja, and at Cape Lopez it is called M'boundu. It grows in swampy places to the height of 4 to 6 feet. The active principle is contained in the red bark of the root, which is scraped off and steeped in about a quart of water, and when the water has acquired a reddish colour, the poison is ready. *S. laurina*, *Wall.*, grows at Galle, Korne-galle, and other of the warmer parts of Ceylon. *S. cinnamomifolia*, *Thw.*, Atta-kirindi-wel, SINGHALESE, a native of Ceylon, growing in the Hantani district, at an elevation of 3000 feet. *S. Gaultheriana*, of Cochin-China, is employed in cases of leprosy and hydrophobia.—*Eng. Cyc.*; *Thw. En. Pl.*; *Thw. Nature*.

STRYCHNOS COLUBRINA. *L.* Snake-wood. Kuchila luta, . . . BENG. | Modira kaniram, MALAC. Bois de couleuvre, . . . FR. | Pao-de-cobra, . . . PORT. Lignum colubrinum, LAT. | Naga musadi, . . . TEL.

A scendant plant with a stem often 8 to 12 inches in diameter, growing in the hot, drier parts of Ceylon, and in Malabar, Konkani, Coromandel, and Khassya. The wood is of a light-grey colour, hard, and intensely bitter. That of the root is deemed a remedy for the bite of the cobra capella; but several woods have, however, received the appellation of Bois de couleuvre (*Lignum colubrinum*), viz. the *Ophyoxylon serpentinum* in Amboyna, the *Ophiorhiza mungos* in Java, *Polygala senega* in North America, etc., all for their supposed virtues as antidotes to snake poison. A very large proportionate quantity of strychnine exists in the wood of this root.—*O'Sh.*; *Eng. Cyc.*; *Thw. Enum.*; *Roxb.*

STRYCHNOS LIGUSTRINA.

Caju-alar, . . . MALAY. | Caju-badaira pail or Caju-nassi, . . . Jaut, . . . MALAY.

A tree of the Eastern Archipelago, resembling the orange tree; berries globose, yellowish-green, two to eight seeded. This yields the *Lignum colubrinum* of Tanor.—*O'Sh.* p. 443.

STRYCHNOS MINOR. *Blume*.

Var. a. S. parviflora, *Benth.* p. 341.

Grows in the warmer parts of the island of Ceylon, in the Central Province, up to an elevation of 6000 feet.—*Thw.*

STRYCHNOS NUX VOMICA. *Linn.*

Khanek-ul-kalb, . . . ARAB. | Lignum colubrinum, LAT. Falus mahi, . . . Jhar-katchura, . . . MAHR. Kha boung, . . . BURM. | Vesha-mushti bijum, SAN. Kha gye? . . . Kulaka, Kutaka, . . . Caniram, . . . CAN. | Kudaka dornata? SINGH. Snake-wood tree, . . . ENG. | Gada-kadooro, . . . Poison-nut, . . . ENG. | Yetti-cotay matam, TAM. Kuchila, . . . HIND. | Musadi, Mushti, . . . TEL.

A middling-sized tree, with a short, crooked trunk, which grows in the East Indies. The seed is inodorous, but its taste insupportably acrid and bitter. It is very difficult to reduce the seeds to powder; they must be first rasped, the raspings steeped in mucilage, then dried and powdered; or the raspings should be exposed to the steam of water for an hour, then stove-dried, and powdered in a covered mortar. The bark is of an ash-grey colour; is known to the European druggists under the name of the 'false angustura.' Dr. O'Shaughnessy found the bark commonly sold in Calcutta under the name of Rohun, and substituted for the harmless bark of the *Soyimida febrifuga*. It acts as a powerful exciter of the spinal cord, and as a tonic. By Europeans it is principally used in paralysis and neuralgia, also in muscular tremors and incontinence of urine; and natives of India are now using strychnine as an excitatory agent. The pulp of the poisonous fruits are the favourite food of the *Buceros Malabaricus* hornbill, and other birds. The hard and durable wood is used for many purposes by the natives. It is exceedingly bitter, particularly that of the root, which is used in intermitting fevers, and in cases of venomous snake-bites, when that of *Naga musini*, *S. colubrina*, cannot be had. The seeds are employed in distillation of country spirits, to render them more intoxicating. Its timber is strong and close-grained, but never of large size; wood hard, and of a white or ash colour, streaked with white; specific gravity, 0.706. A cubic foot weighs 52 lbs. It is used for ploughshares, cart wheels, in Travancore for making cots, and is adapted for fancy work and cabinet-making. It furnishes one of the snake-woods of commerce. Iron tools are sharpened on blocks of this wood. White ants will not touch it.—*O'Sh.*; *Royle*; *Roxb.*

STRYCHNOS POTATORUM. *Linn.*

Induga, . . . BENG. | Ingivi, . . . SINGH. Kha-boung, . . . BURM. | Tettan kotte maram, TAM. Yæ-kyie, . . . Tettan parel maram, Indupu chettu, Induga, TEL. Chil-binj-ka-jhar, DUKH. | Katakamu, . . . Clearing nut tree, . . . ENG. | Chilla ginja chettu, . . . Nirmul, Nirmuli, HIND. | Kotoko, . . . Kataka, . . . SANSK. | URYIA.

This tree grows in the drier parts of Ceylon, is found in various parts of India, and grows to a larger size than the *S. nux vomica*, but scarcer. It has shining fruit, which is black when ripe. It attains a height of from 15 to 60 feet. The English name is derived from the property in the seeds of purifying muddy water, being constantly used for that purpose by the natives, who rub the inside of their brass pots with them. The impurities very soon fall to the bottom. The nature of the action has not been clearly ascertained. It probably depends on astringency in the fruit. The fruit is used medicinally. Pulp, when ripe, eaten by the natives. The entire plant is destitute of the poisonous ingredients of the other species. This seed can often be obtained when alum cannot be procured. The natives never drink clear well water if they can get pond or river water, which is always more or less impure.—*Drs. Roxb., Wight, Gibson, Cleghorn; Captain Macdonald.*

STRYCHNOS SANCTI IGNATII. *Berg.*

Ignatia amara, *Linn.*

St. Ignatius' bean, ENG. | Papeeta, . . . HIND.

A branching tree, a native of the Philippine

STRYCHNOS TIEUTE.

Islands, with seeds an inch long, the size of a large olive. According to the analysis of Pelletier and Caventon, these beans contain igasurate (strychnate) of strychnia, wax, concrete oil, yellow colouring matter, green starch, bassorine, and vegetable fibre. The strychnine is present in three times the quantity of that in *S. nux vomica* nuts, but there is no brucine. Its activity is consequently very great, it uses the same as those of *nux vomica*. In small doses they are said to purge; they are an efficacious vermifuge. When given in over-doses, the symptoms are those of poisoning by strychnia, as vertigo, convulsions, etc., and the remedy used for these effects is lemonade in large quantities, which is said to afford relief speedily.—*Eng. Cyc.*; *Osh.*

STRYCHNOS TIEUTE. *Lesch.*

Ypo, . . . CELEBES. | Tietti, Tiette, . . . JAV.
Upas tieute, Tahellik, JAV. | Antiar, . . .

Has elliptical, acuminate, 3-nerved, glabrous leaves, and simple tendrils, which are thickened opposite the solitary leaves. This plant is a climbing shrub, a native of Java, and is said to be the true Upas tree of that country. It is undoubtedly the most poisonous species of the genus, and yields the greatest quantity of strychnia. The root is called Upas raja, but another Upas tree of Java is the *Antiaris toxicaria*, and several other plants are called Upas. The natives of Java prepare from this species one of the poisons that are used for producing death by arrow wounds.—*O'Sh.*; *Eng. Cyc.*

STURGEON.

Stör, . . . DAN., GER., SW. | Rohalo, . . . PORT.
Steur, . . . DUT. | Oseur, . . . RUS.
Sturgeon, . . . FR. | Esturion, . . . SP.
Storione, . . . IT.

The Sturionidæ family of fishes belong to the section Chondropterygii. Four genera are contained in this family, — *Accipenser*, *Spatularia*, *Chimæra*, and *Collorhynchus*. The sturgeon, *Accipenser sturio*, ranges through the seas of the coasts of Europe, and is largely captured by the Russians in the Caspian Sea. Its swim or sound furnishes the best isinglass of commerce. The sturgeon of the Borysthenes are mentioned by Herodotus as large fish without prickly bones, called antacæi, good for pickling; and, according to Professor Rawlinson, caviare also was known to the Greeks. The common sturgeon (*Accipenser sturio*, *Linn.*) is not unfrequently met with in mouths of English rivers. It is of an elongated form, and has the body protected by numerous indurated plates; the tail is forked, and the upper lobe is the largest, as in the sharks.—*Eng. Cyc.*; *Yule, Cathay.*

STURNIDÆ, the starling family of birds, which naturalists arrange into the Sturninæ, the starlings or mynas; the Lamprotorninæ, glossy mynas or grackles; the Buphaginæ or ox-peckers; the Quiscalinæ or boat-tails; the Icterinæ or hang-nests; and the Agelainæ or maizes. The Sturninæ, Lamprotorninæ, and Buphaginæ are peculiar to the Old World. In the E. Indies, the more frequently occurring genera and species of the family are as under:—

Fam. Sturnidæ. Sub-Fam. Sturninæ.

Sturnus vulgaris, *Linn.*, common starling.

St. Indicus, *Hodg.* | *St. splendidus*, *Temm.*

Telia maina, . . . HIND. | Nakahi-telia, . . . HIND.
Tilora, . . . , | Tilgiri, . . . KASHMIR.

The glossy black starling of Europe, Asia,

STYLIDIUM BEGONIFOLIUM.

Africa, Azores, is common in the Himalaya, and N. India, Kashmir, Afghanistan, etc., as in Britain.

Sturnus unicolor, *Marm.*, of Sardinia, Barbary, etc., is very distinct, and much less bright in its glosses than the common starling. It is said by Adams to be common in Sind, the Panjab, and Kashmir.

Sturnus cineraceus, *Temm.*, Japan.

Sturnopastor contra, *Linn.*, pied starling.

St. Capensis, *Linn.* | *Pastor jall*, *Horsf.*

Ablaka-gosalik, . . . BENG. | Ablak-maina, . . . HIND.
Guia-leggra, . . . , | Venda gorinka, . . . TEL.

Found throughout a considerable part of India, but absent in the S. and S.W.

Sturnopastor superciliiaris, *Blyth.*

Pastor roseus, *Linn.*, the rose-coloured starling, of all India and Burma.

P. jalla, *Horsf.*, Malayana.

P. tricolor, *Horsf.*, Java.

P. temporalis, *Wagler*, China.

Acridotheres tristis, *Linn.*, the common myna.

Gracula gryllivora, *Daud.* | *Mina tristoides*, *Hodg.*

Salik, Bhat-salik, . . . BENG. | Salonka, . . . MAHR.
Gorwantera, . . . CAN. | Goranka, Gorinka, . . . TEL.
Beuni, Saloo, OHUT-NAO.

All the head, the crest, neck, and breast glossy black. It occurs all over India and Burma. It was introduced from the Mauritius into India to destroy the grasshoppers.

Acridotheres ginginianus, *Latham.*

Turdus ginginianus, *Lath.* | *P. Mahrattensis*, *Royle.*

Pastor gregiculus, *Hodg.*

Gang-salik, . . . BENG. | Gilgila, . . . HIND.

Ram-salik, . . . , | Bardi maina, . . . NEPAL.

Bank myna, . . . ENG. | Lali, . . . SIND.

Ganga maina, . . . HIND.

Occurs from Afghanistan and the Himalaya southwards to the Nerbadda.

Acridotheres fuscus, *Wagler.*

A. griseus, *Blyth.* | *Mama cristatelloides*, *Hod.*

Pastor Mahrattensis, *Sykes.* | *Gracula cristatella*, *Sund.*

Jhont-salik, . . . BENG. | Jhonti maina, . . . HIND.

Pahari maina, . . . HIND.

Occurs in hilly and jungly districts throughout India, Nepal, Assam, and Burma.

Acridotheres cristatellus, — ? China.

Acridotheres Javanicus, *Cabanis*, Java.

Temenuchus pagodarum, *Gmelin.*

Pastor nigriceps, *Hodg.* | *Turdus pagodarum*, *Gmel.*

Maina sylvestris, *Hodg.*

Monghir pawl, . . . BENG. | Bahinani maina, . . . HIND.

Pabiya pawl, . . . , | Papata pariki, . . . TAA.

Brahmany myna, . . . ENG. | Kawanati, . . .

Popoya maina, . . . HIND. | Papata gorruki, . . . TEL.

Occurs throughout all India. It is the black-headed myna.

Temenuchus Malabaricus, *Gmelin*, is the *Pastor caniceps*, and *T. Blythii*, *Hodgson*, the *Pawi* of Bengal.

Temenuchus Blythii, *Jerdon*, the white-headed myna of the Malabar forests, and other six species of Further India.

Sarglossa spiloptera, *Vigors*, of Western Himalaya.

Eulabes religiosa, *Linn.*, hill myna, of S. India, Coorg, Wynad, and Malabar.

Eulabes intermedia, *A. Hay*, the Nepal hill myna, of N. India.—*Blyth*; *Jerdon*. See Starlings.

STYLIDIUM BEGONIFOLIUM. *R. Rr.*

S. Chinense, *Lour.* | *Marlea begonifolia*, *Rozb.*

Khasya Hills, extending northwards beyond 30° of N. lat.; middle-sized, white, with large

yellow anthers, from March and April to July and August. Timber employed by the natives in the construction of their houses.—*Voigt*.

STYLOCORYNE WEBERA. *A. Rich.*

Webera corymbosa, <i>Willd.</i>	Rondeletia Asiatica, <i>Linn.</i>
Canthium corymbosum, <i>Pers.</i>	Cupia corymbosa, <i>D. C.</i>
	Tarenna Zeylanica, <i>Gertn.</i>
Konmi chettu, . . . TEL.	Konda papata, . . . TEL.
Bomma papata, . . . "	

The wood of this small tree is small, but hard, prettily marked, and much esteemed by the natives. The tree is met with on the Godavery. Its leaves and fruit are used in medicine.—*Roxb.*; *Voigt*.

STYRACEÆ, a sub-order of plants, consisting of trees or shrubs, and comprising eight or nine genera; Symplocos, Styrox, Paralea, and Decadithera. The E. Indian species are:—

- Symplocos ferruginea, *Roxb.*, Khasiya.
- S. spicata, *Roxb.*, Khasiya.
- S. racemosa, *Roxb.*, Bardwan, Nepal, Kamaon.
- S. sinica, *Kerr*, China.
- S. pulcherrima, *Wall.*, Nepal.
- Styrox benzoin, *Dryand.*, Sumatra.
- S. serrulatus, *Roxb.*, Chittagong.

This order is chiefly remarkable, in an economical point of view, for furnishing the storax and benzoin of commerce, which contain a peculiar acid called the benzoic acid. Some of the species are used for dyeing yellow.

STYRAX BENZOIN. *Dryander.*

Lithocarpus benzoin, Blume.

Bakhur, Kunnuk, . . . ARAB.	Kominjan, . . . MALAY.
Lubani ood, . . . DEKH.	Husse luban, . . . PERS.
Gum-benjamin tree, ENG.	Husse-ul-jawi, . . . "
Storax,	Sambrance, . . . TAM.
Luban,	HIND.

This tree is a native of Sumatra, Siam, and Java, and yields the gum-benjamin of commerce, by making incisions into the tree in its seventh year. The juice hardens on exposure to the air, that which flows first being the purest and most fragrant. It is supposed that Styrox Finlaysonianum also yields it. It occurs in masses composed of white lumps, joined together by a brownish-red substance. It has an agreeable odour and taste. It contains a resin mixed with a considerable quantity of benzoic acid, which may be prepared from this drug. It is a very useful stimulant, expectorant, and diuretic, but is chiefly used as incense. It is principally used in chronic bronchitis and laryngitis, also in jaundice and disease of the bladder.—*Voigt*; *Birdwood*; *Powell*.

STYRAX OFFICINALE. *Linn.* A native of Asia Minor and Syria, common in Greece, and cultivated in the south of Europe. As this plant does not yield a balsamic exudation in all these situations, some storax has been thought to be yielded by Liquidamber orientale. See Storax.

STYRAX SERRULATUS. *Roxb.* Koom jameva, BENG. A small tree, a native of Chittagong, where it blossoms in March, and the seed ripens in October.—*Roxb.*

SU, also Abar, a great Scythic horde who entered India B.C. 126, and gave their name to the province of Indo-Scythia.—*Elliot*.

SUAR or Surah, a wild, half-savage, forest tribe inhabiting the Eastern Ghats of the Peninsula of India. They are known to their settled neighbours as the Chenchu kulam, Chenchwar, and Chensuar. Wilson names them Chenchu-vadu (Vadu, TEL., a man). They dwell in the tract covering the westernmost range of the Eastern

Ghat line, between the Pennar river and the Kistna, and known locally as the Nullamallay and the Lankamallay. They inhabit clearings in the forest, live in beehive-shaped huts, like the African, Nicobarian, and many of the ruder Asionesian tribes. These are of wicker-work, with walls about 3 feet high, and a conical straw roof, with a screen for a door. The men, almost nude, have in general only a rag for covering. The women dress like the wandering female basket-makers, whom they resemble in features. The features of the men are small, but the expression is animated, cheek-bones higher and more prominent than those of the Hindus in general, nose flatter, and nostrils more expanded; their eyes black and piercing. In stature they are somewhat shorter than their neighbours, and they are slightly, but well made, except about the knee and the leg, which is large. The colour of the skin is dark. Newbold characterizes them as between a Teling and a Jakun of the Malay Peninsula. They speak Telugu with a harsh and peculiar pronunciation. They have large dogs, and a few are employed as hill police in the pass from the Kuman to Badwail. They have no images. They are polygamists; they bury their dead, but sometimes burn, and they carry the deceased's weapons to the grave. They use the spear, hatchet, the matchlock, or a bamboo bow and reed arrow tipped with iron. They look on weaving and other manufacturing arts with contempt. They are patient and docile. Mr. Logan has suggested that the Chenchwar are a continuation of the wild forest Surah of the mountainous tracts farther north in the line of Eastern Ghats. Vocabularies of the Kond, Savara, Gadaba, Yerukala, and Chentsu are given in the Beng. As. Soc. Journal of 1856.—*Newbold in Beng. As. Soc. Jour.*, 1865; *Logan in Jour. Ind. Arch.*

SUBAH, a province, a government, sometimes a smaller division, also the officer in charge of a subah. Subah under the Moghul rule was a larger subdivision of their dominions, such as Oudh, Behar, Bengal. Each subah was divided into a certain number of circars, and each circar into parganas or mahals (which are used as equivalent expressions), and the parganas again were aggregated into dustoor or districts; and as the parganas of the dustoor were always contiguous, the dustoor statement in old registers, if copied with any regard to correctness, forms a means of the verification of doubtful names. Subah is an Arabic word, signifying a head of money or a granary. Circar is literally a chief, a supervisor; dustoor, besides signifying a rule, is also a minister, a moonshi. The title of Subahdar, or lord of the subah, is long subsequent to Akbar's time. Sipahsalar was then the only designation of the emperor's viceroy in each subah. A subahdar, in the British Indian army, is a native commissioned officer of native infantry or cavalry.—*Elliot*; *Malcolm's Central India*.

SUBAH, ARAB. The morning. Subh-i-kazib, a false dawn, is a transient appearance of light on the horizon, which often appears about an hour before the subh-i-sadik, or real dawn of day. Subah-ul-kheir, good morning.

SU-BAHU. SANSK. Five-armed, a royal Hindu title.

SUBAKTAGIN, governor of Khorasan, declared himself independent at Ghazni in A.D. 975;

he afterwards carried his arms across the Indus, forcibly converting the natives to Islamism. These inroads were repeated, and in the last (A.D. 997) he was accompanied by his son, the celebrated Mahmud, who, after his succession to the throne of Ghazni, repeatedly invaded India. Mahmud subjugated the whole of the level district west of the Indus to the very foot of the Brahui mountains. His son Musaud extended these conquests still more westerly into Mekran. He adhered, however, to his father's plan of not ascending the lofty ranges.—*Hist. of Panjab*, i. 64.

SUBANSIRI, a river in the north-east of the province of Assam, which contributes to form the main stream of the Brahmaputra. It is supposed to rise far up among the mountains of Tibet. It enters the district of Lakhimpur from the Miri Hills, and, flowing south through North Lakhimpur, forms, together with the channel of the Lohit, the large island Majuli Char, and finally empties itself into the main stream of the Brahmaputra in Sibasagar district. In the plains it is navigable by steamers as far up as Patalipani, 16 miles from North Lakhimpur town. Below this place it is nowhere fordable.—*Imp. Gaz.*

SUBARNAREKHA, meaning the streak of gold, is a river in Bengal, which rises 10 miles south-west of Ranchi in Lohardaga district, and flows towards the north-east, leaving the main plateau in a picturesque waterfall called Hundrughagh.

SUBARNAREKHA, in lat. $21^{\circ} 34' 30''$ N., and long. $87^{\circ} 22'$ E., on the Orissa coast, was the site of the first maritime English settlement in Bengal. The port is unsafe during the south-west monsoon, but within the bar the Subarnarekha possesses a magnificent deep channel.—*Imp. Gaz.*

SUBATHU, a military cantonment and sanatorium in the Simla district of the Panjab, in lat. $30^{\circ} 58'$ N., and long. $77^{\circ} 2'$ E. It occupies the crest of a ridge on a table-land at the extremity of the Simla range, overlooking the Ghambar river, 23 miles from Simla station. It is 4253 feet above the sea. It has been held as a military post since the close of the Gurkha war in 1816, and barracks exist for a whole regiment. Subathu lies 9 miles from Kussowlee on the road to Simla; the hills are bare of wood; the climate differs from that of Kussowlee in being hotter in summer, and colder in winter. It is altogether more dry and sheltered, and has an advantage in being seldom visited by fogs. Subathu is noted for its nummulitic strata.—*Imp. Gaz.* See Sanatoria.

SUBHA, a Bedouin tribe on the right bank of Euphrates below the Weldi. They are constantly at war with the Shammar of Al Jazirah, and on that account are protected by the Anazeh. They have large flocks of sheep and camels, and have good horses. Some families grow grain.

SUBHADRA (Su, beautiful, Bhadra, good), daughter of Vasudeva, sister of Krishna, and wife of Arjuna. Bala Rama, her elder brother, wished to give her to Duryodhana, but, at Krishna's suggestion, her marriage was by seizure of the maiden by Arjuna, near the Raibuta mountain, where she had gone to perform religious ceremonies, and Bala Rama subsequently acquiesced in their union. She was the mother of Abhi Manyu. Her lamentation for her son after he was killed in battle was addressed to his spirit,

and she prayed for its being associated with the holy and heroic in the heavenly sphere.—*Dowson; Mahabharata; Cal. Review.*

SUBHAGNA (of good fortune) was an only child, a maiden widow. It is related of her in a Hindu legend, that, having learned from her preceptor the solar incantation, incautiously repeating it, the sun appeared and embraced her, and she thence became pregnant. The affliction of her father was diminished when he discovered the parent. Nevertheless (as others might be less charitable), he sent her with a female attendant to Balabhipura, where she was delivered of twins, male and female. When grown up the boy was sent to school, but, being plagued about his birth, whence he received the nickname of Ghaibi (concealed), in a fit of irritation he one day threatened to kill his mother if she refused to disclose the author of his existence. At this moment the sun revealed himself; he gave the youth a pebble, with which it was sufficient to touch his companions in order to overcome them. Being carried before the Balhara prince, who menaced Ghaibi, the latter slew him with the pebble, and became himself sovereign of Saurashtra, taking the name of Silladitya (from Silla, a stone or pebble, and Aditya, the sun). His sister was married to the raja of Baroach. We are struck by the similarity of production of these Hindu Heliads, and that of the Tatar dynasty from which Chengiz Khan was descended. The Nooranyon, or children of light, were from an amour of the sun with Elancua, from which Chengiz Khan was the ninth in descent. Authorities quoted by Petit de la Croix, in his life of this conqueror, and likewise by Marigny, in his history of the Saracens, affirm Chengiz Khan to be a descendant of Yezdejird, the last Sassanian prince. Chengiz was an idolater, and hated the very name of Muhammadan. A courtier telling Aurangzeb of his celestial ancestry, gravely quoting the affair of the mother of the race of Timur with the sun, the monarch replied, 'Mama caba bood.'—*Tod's Rajasthan*, i. p. 234.

SUBHAN. ARAB. Praising or glorifying God. Subhan Allah, May God be praised! a frequent solemn ejaculation of devout Muhammadans.

SU-BHANGI or Aghiri are wandering Hindu mendicants. They drink from human skulls water mixed with urine and sugar, and as if for purposes of nature squat before houses, extorting alms by the disgust they create. They likewise do the tricks of producing from their mouths, milk, liquor, etc. They are believed to engage in gang robberies.

SUBHAN RAI, author of *Khulasat ut Tawarikh*.

SUB-HIMALAYA is a term originated by Mr. B. Hodgson to distinguish all the mountains and their inhabitants below the snowy range. But the term is inappropriate, as it includes precipitous mountains 8000 and 10,000 feet high, and people dwelling in them, higher than the highest mountaineers of Europe. The Sub-Himalayas comprised in Bhutan, Sikkim, and Nepal are chiefly occupied by Tibetan or Bhotia tribes, and by tribes more akin to the Gangetic race. The first fossil remains of the colossal tortoise, *Colosuchelys atlas*, were discovered in 1835 in the tertiary strata of the Siwalik Hills, or Sub-Himalaya skirting the southern foot of the great Hima-

lays chain. They were found associated with the remains of four extinct species of mastodon and elephant, species of rhinoceros, hippopotamus, horse, anoplotherium, camel, giraffe, sivatherium, and a vast number of other mammalia, including four or five species of quadrupeds. The Siwalik fauna include also a great number of reptilian forms, such as crocodiles and land and fresh-water tortoises. Some of the crocodiles belong to extinct species, but others appear to be absolutely identical with species now living in the rivers of India, in particular to the *Crocodylus longirostris*, from the existing forms of which naturalists have been unable to detect any difference in heads dug out of the Siwalik Hills. The same result applies to the existing *Emys tectum*, now a common species found in all parts of India. A very perfect fossil specimen, presenting the greater part of the evidence of the dermal scutes, is undistinguishable from the living forms, not varying more from these than they do among each other. There are fair grounds for entertaining the belief as probable that the *Colossochelys atlas* may have lived down to an early period of the human epoch, and since become extinct,—1st, from the fact that other chelonian species and crocodiles, contemporaries of the colossochelys in the Siwalik fauna, have survived; 2d, from the indications of mythology in regard to a gigantic species of tortoise in India.—*Campbell*, p. 46; *Jour. As. Soc. Ben.*, No. 247 of 1855. See Siwalik.

SUBRAMANYA, among the Hindus of Southern India, a name of Kartikeya, the god of war. Subramanya is a favourite deity of the Tamil and Teling races.

SUBRAMUNI, below the ghats in the south of the Peninsula, is one of the principal seats of serpent-worship in India.

SUBRAON is in the neighbourhood of Ferozpur in the Panjab. It was the scene of a battle between the British and the Sikhs after the death of Ranjit Singh.

SUBSIDIARY FORCE, a term by which is designated a brigade of the British Indian army, about 5000 strong, lent to the Hyderabad Government, under treaty, and the expenses of which are met by the revenues of the Ceded Districts, now forming the revenue collectorates of Bellary, Cuddapah, and Kurnool. It was the Marquis of Wellesley who established the relations between the Nizam and the British on their present basis, and who initiated that political status of subsidiary alliances which has continued with but little alteration down to the present day. By this system a native sovereign receives a British Resident at his court, and receives and maintains a British subsidiary force within his dominions. This system was carried out with the Nizam of the Dekhan in 1798 and 1800. It was also tried on the sultan of Mysore, but Tipu flamed up at the idea of becoming a pensioned prince, and the result was his own overthrow and the establishment of a dependent raja in his room. Then it was tried on the Peshwa of the Mahrattas, and would also have been tried on Sindia and Holkar, had not Wellesley been recalled, and Cornwallis sent out in his room. This system was subsequently extended to the whole of the Native States, and belongs to the general history of India. By this arrangement Nizam Ali was com-

pelled to give up his French force, and to become really dependent on the British power. He died in 1803, very shortly after the change.

SUCCOOTH BENOTH, an Assyrian deity, whom the Jews worshipped under the name of Astarte or Ashtaroth, and it is said that this deity was of both sexes. This physiological or androgyne union of the sexes is attributed to a form of Siva, the right side being male and left side female, and his female energy or sakti is fabled to have assumed both appearances as circumstances required. The Babylonian goddess identical with Succoth Benoth was Mylitta, meaning mother, and the term Mat'ha or mother is applied to the wife of Siva. Amongst the Assyrians, the women, once in their lives, had to make a sacrifice of virtue to the goddess Succoth Benoth. Lemprière says that Succoth Benoth was a surname of Venus, in whose temples all the women were obliged to prostitute themselves to strangers. Amongst other names of the wife of Siva is Bali or Vali, under which appellation she assumed the form of a girl of twelve years of age. And in Madura, Balane, and other places, beautiful virgins used to go to the temple once in their lives to offer themselves in honour of the goddess. It was the belief that a god had conversed with them.—*Roberts*, p. 9.

SUD, Sudh, or Sudhan, in Chutia Nagpur, a term which includes all Hindu castes, Brahmans, Rajputs, Golas, Kurmis, Kahars, etc. The word means pure, and they designate the aborigines Kol, meaning vile or impure, or Chuar, robber. The Kol accepted the distinctive denomination. Uniting in themselves a Dravidian and Kolarian element (the Oraon and Munda), they were in want of a generic term to distinguish them from the Sudhs, but to the latter they also apply the epithet Diku, a word of uncertain meaning, but not intended to be complimentary.—*Dalton*, *Ethnol. of Bengal*, p. 309.

SUDANA or Sudatia, illustrious giver, the title of the famous Buddhist prince Wessantara, king of Sibi or Siwi, and son of Raja Sanda. He is believed to have been one of the previous incarnations of Buddha. His history and that of his wife Phusat and two children, are represented in the sculptures on the north gate of the great Bhilsa tope. He gave away whatever he was asked for, even his kingdom, and was dethroned by the people. His capital Jayatura is supposed to be the modern Shahbaz garhi. On a rock within its bounds is one of the rock inscriptions of Asoka.

SUDDHODANA, father of Gautama Siddharta, the Sakya Buddha. He was chief of a tribe of Sakya, whose country lay among the spurs of the Himalaya, along the banks of the Rohini or modern Kohana. He was one of the last representatives of the pure Aryan or Solar dynasties who held sway in Ayodhya, the modern Oudh, and were deposed by the Lunar dynasties of the mixed Aryan and Turanian races, and reduced to mere chieftains of tribes, who still maintained a precarious independence under the protecting shadows of the Himalaya. The Rohini (Kohana) divided the Sakya rule from that of the Koliyan on its opposite bank, and in times of drought and famine the river was often the subject of fighting between them. But during the rule of Suddhodana there was peace between the clans on either

side of the Rohini, and Suddhodana had married two daughters of the Koliyan chief. Both continued childless, until, in her 45th year, the eldest sister presented her husband with a son, the prince Gautama Siddharta, who when 19 years old was married to his beautiful cousin Yasodhara, daughter of the Koliyan chief, who bore a child to her husband when he was in his 29th year.

SUDI. HIND. The bright or increasing half of a lunar month from new to full moon; a fortnight of the growing moon.

SUDIKKODUTTA NAYSSİYAR, a Tamil poetess, who is said to have been a foundling, who consecrated herself to Vishnu, as worshipped at Tirupati. 173 stanzas, called Tirupavai and Tirumoli, part of the Nalayira Pirapantam, are attributed to her.

SUDRA or **Sudar** is the caste appellation of the mass of the Hindu inhabitants of India. This word is of very rare occurrence in the Vedas. The Aryans commonly styled their native foes *Dasya*, but in several passages of the Atharvan, *sudra* or *çudra* is directly contrasted with *arya*. Lassen recognises the name in that of the town *Sudras* on the Lower Indus, and especially in that of the nations of the Sudroi in Northern Arachosia, and he supposes them to have been, with the Abhira and Nishada, a black long-haired race of aborigines, subdued by the Aryans. It cannot be doubted that by the Aryans the term was extended in course of time to all who occupied or were reduced to a dependent condition, whilst the term *Mhleccha* continued to be the appellation of the unsubdued un-Aryanized tribes. Lassen and Max Muller suppose that the whole of the Sudra or primitive servile classes of Northern India belonged to a race different from their Aryan conquerors; but Dr. Caldwell thinks it probable that a considerable portion of them consisted of the slaves, servants, dependents, or followers of the high caste Aryans, and, like the latter, belonged to the Aryan race. And the fact that the Brahman, Kshatriya, Vaishya, and Sudra are all represented as having sprung from Brahma's body, though from different parts of it, is in favour of the idea that the Sudra differ from the twice-born Aryans in rank only, not in blood. Sudra are farmers, gardeners, mechanics, artisans, and labourers of every description. But in these Sudra avocations will be found persons of the second and third tribes, castes, or classes, but of the first comparatively few. According to Menu, the natural duty of the Sudra is servitude. Many sections and sub-castes of Sudra burn their dead like other Hindus. Others inter them decently clad, and in a horizontal position, while others, as the Lingaets, artisan goldsmith caste, etc., put their dead in a sitting attitude. The Sudra have numerous subdivisions in their castes, and the tendency of the Aryan Brahman races has been to recognise as of the Sudra caste all the aboriginal races who adopt Brahmanism. In the Peninsula of India, the great Vallalar, Idiga, and Reddi races, the Balja, Pakinati, Mootati, Vellanati, all with the titles of Rao, Naidoo, and Sitti, all the Kunbi, Kurmi, all the Hindu barber and mutton butchers, claim to be of Sudra origin. Part of the Sudra have by some authors been believed of a Cushite or Caucasian race, who invaded India anterior to the Aryan immigration. If other

employments fail a Sudra, says Menu, he should subsist by writing.—*Oriental Linguistic Studies*.

SUDRA. The Parsees are invested with the sudra or sacred shirt, and the cord or kusti, at the age of six years and three months. This investiture is the initiation of the child into the religion of Zoroaster, the jubla being then discontinued. The sudra is made of linen or gauze or net, while the kusti is a thin woollen cincture or cord of seventy-two threads, representing the seventy-two Has or chapters of the Izashne, one of the sacred books of the Parsees. The sudra and kusti are worn alike by men and women, but the latter likewise dress in the sarree, generally of coloured silk, and the short-sleeved silk vest called the *kanchri* or *choli*.—*Parsees*, p. 70.

SUDRAKA, author of the drama *Mrichchha Kati*, or the Toy Cart.

SUEDA FRUTICOSA. *Mog.* The Lance and Loonuk, a plant of the Chenopodiaceæ, growing abundantly in the Panjab and Sind. It is burned along with *Salsola Indica*, *Roxb.*, and *Chenopodium*, to obtain *Sajji khar*, crude carbonate of soda.—*J. A. Murray*.

SUEVI. Su, Tuisto (Mercury), and Ertha (the earth), were the chief divinities of the early German tribes. Tuisto was born of Ertha (Ella) and Mannus (Menu). He is often confounded with Odin or Woden, the Budha of the eastern tribes, though they are the Mars and Mercury of these nations. The Suevi or Suiones, the most powerful Getic nation of Scandinavia, was divided into many tribes, one of whom, the Su (Yu-chi or Jit), made human sacrifices in their consecrated groves to Ertha (Ella), whom all worshipped, and whose chariot was drawn by a cow. The Suevi worshipped Isis and Ceres (of Rajasthan), in whose rites the figure of a ship is introduced, 'symbolic,' observes Tacitus, 'of its foreign origin.' At Udaipur, the festival of Isa or Gowri, wife of Iswara, is performed on the lake, and appears to be exactly that of Isis and Osiris in Egypt, as described by Herodotus. The Getic race carried their veneration for the horse, symbolic of their chief deity the sun, into Scandinavia, equally so of all the early German tribes, the Su, Suevi, Catti, and Suicimbri Getae, in the forest of Germany and on the banks of the Elbe and Weser. The milk-white horse was supposed to be the organ of the gods, from whose neighing they calculated future events: notions possessed also by the Aswa, sons of Budha (Woden), on the Yamuna and Ganges, when the rocks of Scandinavia and the shores of the Baltic were yet untrod by man. It was this omen which gave Darius Hystaspes (Hysna, to neigh; Aspa, a horse) a crown. The bard Chund makes it the omen of death to his principal heroes. The steed of the Scandinavian god of battle was kept in the temple of Upsala, and always 'found foaming and sweating after battle.' 'Money,' says Tacitus, 'was only acceptable to the German when bearing the effigies of the horse.'—*Tacitus; Rajasthan*, i. p. 64.

SUEZ, the Es-Suweys of the Arabs, is at the northern end of the Gulf of Suez. It is supposed to be the Klyasma mentioned by Lucian, and later on the Kolzum of the pilgrims, and the sites of these places are indicated by mounds on the back-water which formerly extended for miles inland. Prior to the construction of the Suez Canal, Suez

remained a small Arab village, with perhaps 1000 inhabitants, and although the population has considerably increased, the town presents to this day a decayed appearance, the stimulus given to it by the opening of the canal and docks having been transient.

SUEZ CANAL, connecting the Red Sea and the Mediterranean, was constructed in the middle of the 19th century, having been projected and its works superintended by Count Ferdinand de Lesseps, a native of France. Rameses the Great constructed a canal from the Nile at Bubastes, which reached to the neighbourhood of the lake Timsah. Upon this canal Rameses built his strong towns, Pithon and Rameses, and Israelites were employed in building these cities. This canal was constructed to prevent the passage of the horses of the Hyksos for the purpose of plundering Egyptian territory, and it was certainly completed in the 14th century B.C., and was in use at the time of Herodotus. Necho, a king of Egypt, who reigned about 600 years B.C., is said to have commanded some Phœnicians to sail from the Red Sea to the Mediterranean, round the Cape of Good Hope,—a voyage which they accomplished in two years. If the Phœnicians really did complete the voyage, they anticipated the discovery made by the Portuguese about 2000 years after. Necho entertained the idea of connecting the Mediterranean and Red Seas, and with this view he commenced extending the canal of Rameses, though he succeeded in his design only in extending it as far as the Bitter Lakes.

About 100 years later, Egypt fell under the kings of Persia, and Darius determined upon completing the projects of Sesostris and Necho by digging a canal between the Red Sea and the Nile; but, being assured by the engineers of the period that the Red Sea was higher than the Nile, and that its salt water would overflow and ruin the whole land of Egypt, he abandoned his purpose.

The next king of Egypt who gave his attention to the construction of a Suez Canal was Ptolemy Philadelphus, who reigned about 300 years B.C. He dug a canal from a branch of the Nile to Damietta, a port on the Mediterranean. This canal was 100 feet broad, 30 feet deep, and 10 or 12 leagues in length, extending, in fact, to the Bitter Wells. He meant to have continued it to the Red Sea, but desisted from fear that the Red Sea was three cubits higher than the land of Egypt. That this canal, though deeper than that of M. de Lesseps, did not succeed, is evident from the fact that in B.C. 277 Ptolemy Philadelphus changed the direction of Indian traffic. Alexandria was now made the port on the Mediterranean side, and merchandise from Europe was carried thence up the Nile to the city of Coptus (probably near Keneh), and conveyed across the desert from thence to the seaport of Myos-Hormos (probably near Cosseir) on the Red Sea. On account of the dangers attending this port, Philadelphus sent an army to construct the haven of Berenice, in which the ships engaged in Indian commerce took shelter. Trade increased enormously by the new route, and Alexandria became rich and famous. The father of Cleopatra received a prodigious revenue from customs alone. After the reduction of Egypt and Alexandria by the

Romans, the trade increased still further. 120 ships were sent yearly from the Red Sea to India, sailing about the middle of July, and returning within the year. The returns on this Indian trade are said to have amounted to 'an hundred for one,' and through this increase of wealth the matrons and noble ladies of Alexandria were exceedingly profuse in decorating themselves with pearls and precious stones, and enhanced their personal charms by the use of musk and amber, and other rich perfumes.

Soon after this the mighty Roman Empire fell, and history itself is blotted out for a number of years. Not only the trade with India, but India itself, was completely lost to the western world. When, after some centuries, we find the Genoese engaging in commerce and navigation, a new trade route had been opened up between India and Europe.

The design, so long imagined, of connecting the Mediterranean and the Red Sea by a canal, remained unaccomplished, till M. de Lesseps brought his wonderful engineering skill and perseverance to bear upon the work, and the Suez Canal was opened for navigation 17th November 1869.

The Suez Canal starts from Port Said, 40 miles east of the Damietta mouth of the Nile, and runs across the isthmus, and through lakes Meuzaleh, El Ballah, and Timsah (on the shores of which latter stands the new town of Ismailia), and through the Bitter Lakes to Suez. Its total length is 92 miles. Its actual width (over the greater part of its length) does not permit of two vessels passing or crossing each other in the canal itself, but there are numerous sidings, by which vessels are enabled to cross one another. Vessels measuring 430 feet in length, and drawing 25 feet 9 inches of water, have safely passed through the canal. The actual cost of the canal, according to a report of the year 1877, was £17,518,729. The total receipts, from all sources, of the Suez Canal Company in the year 1877 amounted to £1,359,026, and the expenditure to £1,169,549. The first year in which the receipts exceeded the expenses was in 1872, when the surplus amounted to £82,849. In 1870, 491 vessels of 436,618 tons passed through; in 1877, 1651 vessels of 2,257,556 tons; in 1882, 3198 vessels of 7,122,125 tons; and total receipts, 63,409,593 francs.

The isthmus has been ascertained to consist of fresh-water formations, passing on the south side into marine deposits of the Red Sea, and on the north into those of the Mediterranean. The whole of the service of the canal is supplied, from one end to the other, by a fresh-water canal, leaving the Nile near Cairo. For 70 miles the ship canal is carried through lakes, its course being marked by buoys, and the bottom having been dredged to the requisite depth; while for 30 miles it takes the form of a land ditch, the waterway being cut partly through sand and partly through clay. The prices of the canal shares have fluctuated. Their nominal value is 500 f. They were quoted in 1861, 438 f. 75 c.; in 1863 they varied from 220 f. to 558 f.; in 1869, the year of the opening of the canal, they rose to 633 f. 50 c.; in 1875 they were at 875 f.; in 1880 they went from 715 f. to 1327 f. 50 c.; in June 1881 they were quoted at 1700 f.; from that period they rose even to 3500 f. In January 1884 they were selling at 2015 f. per share. In 1875 the British

Government bought 176,602 shares from the Khedive for £3,976,852.

SUFFUR, the 2d month of the Muhammadan year.

SUFİ, by some authors, is derived from the Greek *Sophos*. Others point to the Arabic *Suf*, wool, in allusion to the woollen robes worn by the majority of the darvesh. The Sufi philosophy is called *Tasawwuf*, and is based on some mystic verses in the Koran and Hadis. Its main principle is that there is no real existence except that of God, and that all the phenomena of the material universe are but emanations from him, and tend ultimately to reabsorption in him. This form of doctrine is spoken of as a *tariqat* or path (to salvation), the disciple as a traveller (*salik*), and the *manzil* are the various stages of spiritual development. It is a religion of the heart, as opposed to formalism and ritualism. Sufis talk of love to God, of union with God, of death to self, and life eternal in God; of the indwelling in man of the Spirit, of the nullity of works and ceremonies, of grace and spiritual illumination, and of the *Logos*.

Jalal-ud-Din says, in the *Masnawi*, 'In whatever place we set our foot, we are always, Lord, within thy resort.' The Sufi creed is a philosophy, a pantheism. The whole visible creation is the outward manifestation of the invisible Being whose spirit is diffused everywhere through it. The first stage of a Sufi disciple is styled *Sharyat* or Law, in which he practises all the external rites and ceremonies of religion. *Tariqat*, from *Tariq*, meaning a path, way, or direction, is the second stage, in which the disciple discards the outward forms of religion, and devotes himself to the mental worship of the deity. The third stage is *Haqiqat*, from *Haq*, the All-Righteous. It means the state of truth, and is a condition accompanied by a preternatural knowledge or meditation, obtained by the devotee through a long meditation on God. The fourth stage is the *Marifat*, from *Arif*, to know, and is attained by long and painful fasts, dwelling in solitary deserts, seeing only his teacher. Few survive the severities of this stage. But when it is reached, the soul, absorbed into the divine essence, is again with God. But the purified Sufi may partake of the nature of God, which is termed *Jamal*, and signifies that mild and gentle beauty which loves to do good and hurts not. Or he may be intoxicated with the wine of the divine love, and absorbed in the contemplation of the Jalal or consuming glory of the deity; in which state he is full of wrath with the iniquities of the world, and if provoked to imprecations, they take immediate effect. Or he may pass from one stage to another, may at one time assert that God is in his sleep, and then fall back into the condition of ordinary mortals, trusting that God will forgive him his sins and make his latter days righteous. The Sufi spiritualist is often almost with views appropriate to eastern pantheistic ideas, but with many almost atheistic, a sort of esoteric doctrine. There are many sects, tracing their tenets to particular founders, whose views they are supposed to hold. Some of them have attained to the condition of the highest spiritual exaltation; but some of the darvesh or fakirs are degraded beings, and in British India are held in great disesteem. Also many of the educated classes in Persia accept Sufi doctrines, adopting a mystical pantheism and

spiritual love in secret, outwardly conforming to Muhammadanism.

Sufi spiritualism, though contrary to materialism, has in reality much in unison. Sufi doctrines are principally held amongst the partisans of Ali, and out of it grew the belief in the infusion of divinity in Ali. Evidences of its antiquity may be found in the annals of almost every ancient and civilised race. The Sufi were called by the Guebres (*Gabr*), *Wahia-daran*, *Roushan-dil*, etc.; by the Hindus, *Gnaneshwar* and *Atma-gnani*. Amongst the Greeks they became Platonists, and have continued up to the present time. The number of Muhammadan sects is considerable. As a broad distinction, they are generally classed as *Shi'ah* and as *Sunni*, but the six bodies of sectarians who oppose the *Sunni* are classed by them as *Rafiziah*, *Kharjiah*, *Jabriah*, *Kadriah*, *Jahmiah*, and *Marjah*, each of whom are broken up into smaller bodies. Before the end of the 1st century, the ascetic turn and the theosophy inseparable therefrom, a combination styled among the Arabs Sufi, had arisen. This made rapid strides; and in the end of the 3d century was already, itself, the subject of learned works, and the Muhammadan world has carried this system to the utmost extreme. Their Sufi outstrip in every point of view both the Hindu *Jogi* and the Christian monks. The asceticism of the Sufi is more systematic, their pantheistic teaching deeper and more consistent, and their vices more enormous, than those of any other people. Spinoza and Schelling are left far behind by Ibn Arabi.

Ta'is Abu Abd-ur-Rahman died A.H. 102 (A.D. 720). He was the friend of Zain-ul-Abidin, grandson of Ali. He was a pupil of Abu Hurayra, the most devout of Mahomed's friends, and of Ibn Abbas, renowned alike for his profound learning and for his spotless life. Ta'is was the founder of a school of disciples whom he trained in mortification, poverty, contempt of the world, and the various spiritual arts and devout practices of the contemplative life. It was he who first adopted the high cap of suf, woollen stuff, from which the term Sufi originated, and the *Khirqah* or long patched robe, which is their distinctive habit. Among his followers has been Ibn-us-Sammak, an eloquent preacher, who said, 'Fear God as though you had never obeyed him, and hope in him as though you had never sinned against him.'

Fazl Abu Ali Talikani, of Khorasan, lived in the 2d century of the Hijira. He commenced life as a robber, but while on the watch on one occasion, he overheard a verse of the Koran, which awed him so that he was instantly converted, and became widely celebrated for his sanctity and works. On one occasion he said to Harun-ur-Rashid, 'Oh, Khalifah, I have only detached myself from this little world, but you have detached yourself from the world which shall endure for ever.'

Fazl's successor as the head of the order was Bashr (Bishr), the barefooted, who was converted in Baghdad by a dream.

Zu un Nun, a native of Egypt, lived in the 3d century, and his tomb at Cairo still attracts pilgrims. He courageously rebuked wickedness in high places. He scourged himself; was in chains and bondage.

Hussn-ul-Hillaj, who was martyred at Baghdad A.H. 303 (A.D. 915), founded a school, which subsequently attained to great influence.

In the 4th century also there lived the famed Abd-ul-Kadar Ghilani, the doctor Mohi-ud-Din-ibn-ul-Arabiya-ul-Maghribi, and also Umar-ibn-ur-Ridh, author of a celebrated Dewan. He fasted for three or four days, and was subject to ecstasies or Wajd. He taught the freedom of the human will, and was put to death with circumstances of revolting cruelty, on the accusation of teaching Christianity in a covert manner.

Farid-ud-Din Attar, author of the *Pind Nama*, of the *Lives of the Pirs*, and the *Mantiq-ut-Ta'er*. He had a biographer in Daulat Shah of Samarcand. He was born A.H. 513; but one day he spoke harshly to a darvesh, who rebuked him so as to subdue Farid, who entered the monastery of Rukn-ud-Din Asaf, and attained a high degree of spirituality. He was martyred by the Moghul invaders under Chengiz Khan.

Jalal-ud-Din Rumi, commonly entitled Maulana, also Maulana Rumi. His father was Baha-ud-Din, a lineal descendant of Abubakr, successor of Mahomed. His mother was a princess of the royal house of Khorasan. He was born A.H. 603 (A.D. 1205). When Jalal-ud-Din was five years old, Baha-ud-Din left Balkh, after denouncing the innovations there in the religion. He went to Baghdad, where he rebuked the khalif; then on to Mecca, and finally settled in Qonya, the ancient Iconium, whose monarch he also rebuked; and he died A.H. 698. After his demise, Jalal-ud-Din studied in Aleppo and Damascus, particularly following the philosophy of Al Gazzali, his teacher being Shaikh Syed Burhan-ud-Din, a pupil of his father and an anchorite of great renown, and from him Jalal was instructed in the mysteries of mute reality and ecstasy, and the science spoken of in Koran xviii. 64. He afterwards assumed the rectorship of his father's college in Qonya, where he abode till his death. His son Baha-ud-Din survived him. At his funeral, mourners of all creeds and of various nations attended his remains to the grave. He died at sundown, Sunday, 5th Jamadi-ul-Akhir, A.H. 672 (16th December A.D. 1273), 68 years old. In the religious dances of the darvesh, he introduced instrumental music, the flute, the rebec, the drum, and the tambourine. He says—
'Learn what are the terms of the Mussalman's creed,—
Fasting, pilgrimage, prayer, and alms.'

'Thus, when self-abased, man's spirit
From each earthly tie
Rises disenthralled to inherit
Immortality.'

Sad-ud-Din Mahmud, of Shahbistari, near Tabreez, lived in A.H. 717 (A.D. 1317). 15 questions were received from Amir Syed Husaini of Herat on the Sufi doctrines, and Sad-ud-Din was chosen by his sect to answer them. This he did in verse, and his book is called the *Gulshan-i-Raz* or *Mystic Rose Garden*. Little is known of the writer. In his answer to the 13th question he says—

'The spiritual world is infinite,
How can finite words attain to it?
How can the mysteries beheld in ecstatic vision
Be interpreted by spoken words?
When mystics treat of these mysteries,
They interpret them by types.'

On this point, however, the outside world will regard it, to say the least, as unfortunate that the Sufi should employ, in telling of their love of God, all the expressions usually adopted when describing the beauties of a mistress, the joys of sexual love, and pleasures of alcoholic stimulants.

The Sufi rest all their system of morality upon the practice of divine love, and the darvesh and fakirs are their expounders.

M. Dozy says the influence of Sufism is rather increasing than diminishing in Turkish provinces, and M. de Kremer considers it the preponderating element in Muhammadan civilisation.

In Constantinople they have 200 monasteries, and there are 82 distinct orders in Turkey. They are styled fakirs, and constitute thoroughly organized bodies, minutely discriminated from each other. Every school, every brotherhood, has its own distinctive teaching and technicalities, its peculiar practices and observances, its great men and founders, its saints and doctors. Within the 19th century, owing to Sufi efforts, Muhammadanism has had a revival in Turkey. A system of primary schools has been established, and the present generation has been taught to regard the ordinances with reverence. Sufi doctrines have been but little avowed in British India. Mullah Shah, a saint and poet, died at Lahore, A.H. 1072 (A.D. 1661-62), and Fatima, daughter of Shah Jahan, erected a tomb over him.—*Burton's Scinde*, p. 406; *Westminster Review*, 1869; *Malcolm's Persia*, ii. pp. 382-445; *Home and Foreign Review*, iv. p. 571; *W. S. Lilly in Cont. Rev.*, August 1883; *Gulshan-i-Raz*. See Zikkir.

SUFİ-SUFİYANA, fabric of silk and cotton mixed, lawful for Muhammadans to wear.

SUFOORA, Moses' wife Zipporah.

SUGAR.

Shakkar, A.R., GUJ., HIND.	Soola, Sakar, . . .	MALAY.
Kyan,	Gula,	MALAL.
Shih-mih-sha-tang, CHIN.	Acuar,	PORT.
Sukker,	Sachar,	RUS.
Suiker,	Sarkara,	SANSK.
Suero,	Azucar,	SP.
Zucker,	Socker,	SW.
Sakkar, Sakkarai, . . .	Sakkarai,	TAM.
Zuccherio,	Panchadarn, . . .	TEL.
Saccharum,	LAT.	

The commercial sugars of Asia are chiefly the products of the *Saccharum officinarum*, *S. Sinense*, *Phoenix sylvestris*, *Borassus flabelliformis*, *Cocos nucifera*, *Arenga saccharifera*, *Nipa fruticans*, and *Sorghum saccharatum*.

Coeval with the use of other vegetable products for domestic purposes in India, appears to have been the employment of the juice of the sugar-cane; though it would not seem that the ancients possessed any knowledge of the process by which this saccharine matter is converted into a crystallized substance. But Marco Polo, who travelled in the east in the year 1260, found abundance of sugar produced in the province of Bengal; and from the almost universal growth of the cane in that province at the first occupation of the country by the British, there is good reason for believing that its culture had rapidly extended at a very early period. From the earliest European intercourse with India, sugar, in a great variety of forms, was met with in daily use. No Hindu lives without it, either as crystallized or in cakes called jagari. Upon the first possession of Calcutta by the E. I. Company, there was a flourishing export trade in sugar to the Indian coast, some of the Eastern Islands, and a few ports in Arabia and Persia, to the extent of about 1500 tons; whilst the local consumption of the article was enormous. The quality of this sugar was, however, very inferior; and about the year 1776 some unsuccessful

SUGAR-CANDY.

attempts were made to introduce into India the Jamaica mode of growing the cane and manufacturing the sugar.

In China, from unknown times, the people have manufactured sugar both from the sugar-cane and from the sorgo-cane. In the reign of the emperor Tai-Tsung, of the Tang dynasty, the method of boiling the crushed cane was introduced into Sze-chuen and other parts of China from Turkestan or Central Asia. Hence, in China, sugar is called tang, the name of the dynasty being combined with the radical for food.

In Europe, cane-sugar has been largely supplanted by that manufactured from beet-root. One ton of beet-root is said to yield about 100 lbs. of raw or 55 lbs. of refined sugar. The imports into Great Britain were from—

Year.	Sugar-cane—tons.	Beet-root—tons.
1877,	144,119	687,552
1878,	168,836	565,351

In 1882, there were about 1,925,000 acres under sugar-cane in India, and 168,700 acres under date-palm, besides an area of 17,000 acres under palmyra and cocoanut in the Madras Presidency, from which sugar is made. Of the total area under sugar-cane, the North-Western Provinces alone comprise 921,000 acres; the Panjab, 413,000 acres; Bengal, 185,000 acres; and Oudh, 146,000 acres. Next to these come the Central Provinces with 94,000 acres, and the Bombay Presidency with 89,000 acres; the Madras Presidency shows only 34,000 acres, and the remaining provinces have returned comparatively small areas. Of the total area under date-palm utilized for sugar-making, Bengal had 131,000 acres; and next comes Mysore, then Madras, Burma, and Bombay, with areas respectively of 29,000, 4000, 3708, and 1000 acres.

The imports into and exports from India of sugar and sugar-candy have been as under:—

Imported into India.			Exported from India.		
Year.	Cwt.	Rs.	Year.	Cwt.	Rs.
1875-76	610,524	89,39,283	1875-76	107,288	11,04,274
1878-79	918,202	1,47,75,653	1878-79	51,043	6,96,792
1882-83	672,672	1,08,69,610	1882-83	1,207,423	67,86,420

Of the imports, four-fifths from Mauritius, one-fifth from China and Straits. The great bulk into Bombay, a small part into Burma, smaller into Bengal, Madras, and Sind. The exports, in the form of sugar, sugar-candy, molasses, jagari, gur, etc., were chiefly to Great Britain. Large quantities of sugar are made from the juice of the palmyra palm in the Jaffna Peninsula, Ceylon, chiefly in the neighbourhood of Point Pedro, the agent used to prevent fermentation being coralline, a little of which is put into each chatty. The coarse black sugar which results from evaporation over fire, is poured into minute olah baskets (made of plaited leaves of the palmyra), and exported mainly to Pondicherry, where it is refined and crystallized. The natives of the interior obtain a sugar, the cakes of which very much resemble the maple sugar of North America, from the kittul palm, *Caryota urens*.

SUGAR-CANDY.

Ping-t'ang, . . . CHIN. | Shahr-kand, . . . HIND.
Chini, . . . HIND.

Is made in China by crystallizing the raw sugar; the best comes from Foh-kien, called Chin-chew, from which province, especially through the port of Amoy, the exportation is likely to increase.

SUGAR-CANE.

Pingfa sugar is the name given to pounded sugar-candy. Pingfa means crystal flowers, and is applied to this sort because it is the Ping-t'ang or candied sugar made fine. It was formerly carried to the United States and to India.

SUGAR-CANE.

Kasib shakar, . . .	ARAB.	Nai, Nai-shakar, . . .	HIND.
Kan-che,	CHIN.	Kumad, Ukh, Ikh, . . .	PERSS.
Chuh-che, Tih-che, . . .	DEKH.	Shakkar,	TAM.
Ghanna, Ganda, . . .	GUJ.	Kairam-bo, . . .	TEL.
Oona, Gundari, . . .		Sherakoo, . . .	

The sugar-cane, *Saccharum officinarum*, L., *S. violaceum*, Toss., and *S. Sinense*, Roxb., thrives from the equator to the 32d parallel of latitude. It is one of the largest of the grasses, from 8 to 12 feet in height, and acquiring a diameter of one to two inches; the sugar being contained in the loose cellular juicy pith with which the stalk is filled. The sugar-cane of India was introduced into Arabia, Europe, Africa, W. Indies, and Mauritius. The mention made of it in the Hebrew Scriptures down to the Christian era, is simply that of a sweet cane, or of a fine kind of honey found in an Indian reed. Nearchus, the admiral of Alexander the Great, was the first who made known the existence of the sugar-cane in the western world; and from his time it is mentioned by Theophrastus, Varro, Dioscorides, and others. Herodotus alludes to 'honey made by the hands of men.' Lucan speaks of the sweet juice expressed from reeds, which the people of India were fond of drinking, and which Pliny calls saccharine. Still later, Arrian, in his Periplus of the Red Sea, alludes to the honey from reeds called sacchar, as an article of trade between the Indian ports and the countries of the Red Sea. Sugar-cane was found in the Crusades growing in the meadows about Tripoli in Syria; and mention is made by a writer of that day of eleven camels loaded with sugar being taken by the Crusaders.

Will and Fresenius, of the Gressen laboratory, give the inorganic elements of Otahte cane as—silica, 47.75; soluble matters, 32.35; phosphate of peroxide of iron, 4.45; phosphate of lime and magnesia, 3.95; carbonate of lime, 4.10; magnesia, 3.90; carbonaceous matters and loss, 3.50. The 32 per cent. of soluble matters consisted of potash, 10.05; sulphuric acid combined principally with potash, 8.40; chlorine in combination with soda as common salt, 4; soda, 2.65; gelatinous silica in combination with potash, 2.55; carbonic acid combined with potash and soda, 1.10; phosphoric acid combined with potash, 0.85; loss, 2.40.

There are many varieties of it, some used only as fruit, others for the manufacture of sugar, an acre of cane yielding six tons of sugar; but in the little advanced countries, in the absence of machinery and of scientific appliances, where the rough sugar press or sugar mill is used, much of the juice of the cane is left in the refuse. At places the mill is dispensed with, the cane being cut into thin slices, and the saccharine contents of its cells extracted by bringing the slices into contact with water at an elevated temperature. The water extracts only the soluble substances contained in the juice of the plant, while most of the impurities—which in the ordinary process pass into the juice, and must be subsequently removed at great expense—are left in the unbroken cells of the cane, and do not contaminate the

juice. By this process, it is said, the extraction can be carried so far that 95 per cent. of all the sugar contained in the cane is passed into the clarifier, while the best roller mills at present in use do not extract more than 75 per cent. of the sugar contained in the cane. The diffusion process thus not only improves the quality of the sugar, but produces an increased out-turn of 20 per cent.

In Oudh, three presses are in use,—the Panjabi, the Bairam, and the Tantia. In the Panjabi mill, the canes are crushed whole, and the produce is greater; it is costly, and difficult to keep in order. The Tantia mill is in common use, and consists of a mortar of hard wood, a pestle, a boom to which the cattle are yoked, and another boom connecting the cattle beam and the pestle.

Mr. Bonnefin claims to extract the whole of the saccharine matter from the cane, to prevent fermentation, to thoroughly clear the syrup of all suspended matters ready for filtration, to completely purify the juice by filtration, and to make direct from the cane only pure white, refined sugar. Mr. Bonnefin does away with the cane mill, and substitutes for it what he calls a 'pulpecfactor,' which consists of a series of vertical saws, which rapidly cut the bundles of canes into slices. The cut cane falls into a disintegrator placed beneath the saw frame, and in which the cane is quickly reduced to a fine pulp. It is afterwards passed between a pair of rollers, and the whole percentage of the juice extracted. The juice is then mixed, gallon by gallon, as it is produced, with a proper proportion of lime, and passed over a continuous 'preparator,' which consists of a long and broad table having a corrugated or furrowed surface, heat being applied underneath. There are a series of pockets at intervals in the corrugations, and as the juice flows along, the impurities held in suspension are deposited by gravity, and become collected in the pockets, or catchpits, from whence they are cleared out at intervals. The juice travels backwards and forwards for a long distance through the corrugations, finally arriving at the outlet in a favourable condition, both as regards quality and temperature, for filtration. This process is effected in a filter specially devised by Mr. Bonnefin, and which consists of a series of metal rings covered with india-rubber, and placed horizontally in a press. Over each alternate ring—the internal diameter of which is 12 inches—is hung a filter-cloth made of pure unspun cotton of the finest fibre. The rings and cloths, to the required number, which varies according to the rate of filtration desired, are closely pressed and held together by screws, and the syrup is pumped into the press. It passes through the whole series of rings and cloths, the solid impurities being intercepted and retained by that portion of each filter-cloth which covers the opening in the ring, while the syrup passes by capillary attraction through the surrounding portions of the cloths, and is delivered in a perfectly clear and pure condition at the outlet. The pure juice as it leaves the filter-press is conducted either to the ordinary vacuum pan or to the more rapid and effective evaporator and concentrator designed by Mr. Bonnefin. In the evaporator the juice is rapidly deprived of such water as it may contain, while in the concentrator it is as rapidly brought into the condition of sound sugar. All these operations, from

the time the cane is placed in the pulpecfactor to the moment when it leaves the concentrator in the form of crystallized sugar, it is said, do not occupy more than one hour, as against some 6 to 12 hours with the ordinary process, and its attendant drawbacks.

There are many varieties of sugar-cane in India, some used only as a fruit. For instance, in the N.W. Provinces and Oudh, the thun, paunda, and kala ghanna are edible; and for making sugar are dhaunr, dikchan, matna, padara, and rakhri.

Other varieties mentioned in Benares and E. Oudh are barokha, katara, khusyar, khiwahi, munga, reora, rukra, saranti.

In the Lahore district is a purple cane, called kumad kala; a hard, thin cane, called kumad lahori, another called kata, and others, the plants of which were obtained from Jalandhar and Saharunpur. In Gujranwalla are three kinds of cane, daula, treda, and chinkha. Daula or white is the best, treda is yellowish, chinkha, which is reddish and small, produces good kand and chini.

A large variety in Canton has a bamboo-like appearance, but a smaller variety is cultivated largely for making sugar, and to be eaten as a fruit in Sze-chuen, Ho-nan, Foh-kien, and Canton.

Tahiti has eight varieties.

Sugar-cane in W. Oudh is planted in February and March, irrigated from one to three times before the rains, and the cutting begins about the middle of November. The cuttings used for planting may be of all parts of the cane.

Ukh or lkh generally applies only to the crop, the other names to the cane.—*Cal. Cat. Ex.*, 1862; *Mad. Ex. Jur. Rep.*; *Les Anglais et l'Inde*, p. 246; *Faulkner*, iii. p. 113; *Powell*.

SUGRIHITA NAMNA ARYA CRHANAKY-ASYA is a phrase of constant occurrence in the Sanskrit dramas, and indicates the importance attached, not to well-sounding, but to lucky or propitious appellations. This superstition was common amongst the ancient nations of Europe, and, according to Cicero, care was taken in the lustration of the people, that those who conducted the victims, and on the formation of the army, that the first soldier on the muster-roll, should have auspicious names. Cum imperator exercitum, censor populum lustraret, bonis nominibus qui hostias ducerent, eligebantur, quod idem in delectu consules observant, ut primus miles fiat bono nomine.—*Hind. Theat.* ii. p. 160.

SUGRIVA, a monkey prince and friend of Rama. He was dethroned by his brother Balin, but the latter was killed, and Sugriva restored as king of Kishkindhya.—*Douson*. See Vishnu.

SUHAJ or Sahai. There are four grand officers of the government of Mewar, viz. the Purdhan, or prime minister; Bukshi, commander of the forces; Surutnama, keeper of the records; Suhaj, keeper of the signet, or rather, who makes the monogrammatic signet, Suhaj, to all deeds, grants, etc.—*Tod's Rajasthan*, i. p. 479.

SUHAILEA. HIND. A song of joy. See Homage.

SUHAILI, ARAB., from Sahilah, a sea-shore, a name given to the African races dwelling along the coast to the south and north of the Straits of Bab-ul-Mandab; also applied to those on the Morocco coasts, known to Europe as Riff, from Portuguese Ripa, a shore.

SUHOYUM. KASH. A burning ground men-

tioned by Abul Fazl in the Ain-i-Akbari. It lies near the village of Nichi-Hama, in the pargana of Kuchipora, at the north-west end of the valley of Kashmir, where the plain is about 6100 feet in height. Flames frequently issue from the spot.—*Vigne*.

SUIDÆ, the hog family of mammals, viz. Artiodactyla, *Owen*. Tribe. Chærodia, *Blyth*. The pig and hippopotamus.

Fam. Suidæ, pigs.

Gen. Sus Indicus, *Schinz*, Indian wild boar.

<i>S. cristatus</i> , <i>Wagn.</i>	<i>S. scropha</i> , <i>Linn.</i> , <i>Blyth</i> , <i>Ell.</i>
<i>S. vittatus</i> , <i>Schl.</i>	
Kis. . . . BHAGULPUR.	Sur. Bura janwar, . HIND.
Handi. . . . CAN.	Dukar. . . . MAHR.
Mikka. Jewadi, . . .	Pandi. . . . TEL.
Paddi. . . . GOND, MAHR.	

Ceylon, all India, up to 12,000 feet.

Sus Bengalensis, *Blyth.*, and *S. Neilgherriensis*, *Gray*. *Qu. Vars.* of *S. Indicus*, *Schinz*.

S. Malayanus, *Blyth*, Tenasserim.

S. Zeylanensis, *Blyth*, Ceylon.

S. Andamanensis, *Blyth*, Andamans.

S. Babyrussa, *Blyth*, Babyroussa, Malayana.

S. Papuensis, *Blyth*, New Guinea.

Porculia salvania, *Hodgs.*, *Horsf.*, pigmy hog. Choto sur, . . . HIND. [Sano-banel, . . . NEPAL. Nepal and Sikkim Terai, Assam, Bhutan.

Hippopotamus amphibius, *L.*, *H. Iibericus*, *Morton*, both of Africa.

SUIGAM, a Native State in Gujerat, bounded on the north and east by Wao State, on the south by Chadehut State, and on the west by the Salt Desert or Rann. Area, 161 square miles; population (1872), 10,104 persons. The territory was, about A.D. 1450, granted to Pachanjii, the youngest son of Rana Saugaji, and, like Wao, is subdivided amongst a numerous independent bhayad or brotherhood. Like their brethren of Wao, the chiefs of Suigam were noted freebooters, and in the early part of the 19th century gave every assistance to the Khosa in their predatory raids.—*Imp. Gaz.*

SUJATA, a girl of a village on the banks of the Nairanjara, who gave food to Sakya as he sat under the bodhi tree, where he became a Buddha.

SUKEIT, an ancient Rajput principality which came under the British Government by the treaty of Lahore. In 1864, full sovereignty was conceded to the raja Oogur Sein, his heirs and those of his brothers according to seniority, unless specially set aside by Government for incapacity or misconduct. The right of adoption has been conferred on the raja by sunnud. It lies between lat. 31° 13' 45" and 31° 35' 25" N., and between long. 76° 49' and 77° 26' E., on the north side of the Sutlej river, which separates it from the Cis-Sutlej Hill States. Area, 420 square miles; estimated population (1875), 44,180. The country of Sukeit was united to that of Mandi until about the year 1200 A.D.—*Aitcheson's Treaties*, etc. p. 375; *Imp. Gaz.*

SUKHAN. HIND. A helm. Sukhani, a helmsman, the sea cunny of British seamen.

SUKHARA, Saiva mendicants, distinguished by carrying a stick three spans long. They dress in a cap and petticoat stained with ochrey earth, smear their bodies with ashes, and wear ear-rings of the rudraksha seed; also over their left shoulder a narrow piece of cloth dyed with ochre,

and twisted in place of the zonar. They use the word A-lakh. See Rukhara; Ukhara.

SUKHAVATI, the abode of the blessed; in Tibetan, Devachan, the happy; in Chinese, Ngyan-lo, pleasure; also Kio-lo, the greatest pleasure; also Tsing-tu, pure or glorious land. Sukhavati is described as a large lake, the surface of which is covered with lotus flowers (Padma), red and white, with perfumes of rare odour. These flowers form the couches for pious men, whose virtues were the cause of their growth while yet sojourners upon earth.

SUKHPANNI, followers of Krishna who pay great attention to personal cleanliness, and wash themselves many times in the day, using various purifying substances. They live apart from society, and have no disciples. The Sukhpanni are of both sexes, and their bodies are burned after death.—*Sherring's Hindu Tribes*.

SUKKUR, a town in Upper Sind on the right bank of the Indus, in lat. 27° 42' N., and long. 68° 54½' E. Its tall minarets are seen a long way off, and the banks of the river, for some distance below the town, are densely clad with date and cocoanut groves. Opposite Sukkur is the old town of Rori, built high and overhanging the stream. In the centre of the stream, nearly opposite Rori, is the ancient fortress of Bukkur. Here the river is considerably narrowed, and the stream powerful. The heat of Sukkur is intense, and its climate unhealthy.

SULAIMAN HILLS, a mountain range in Afghanistan and the Panjab, forming the boundary of India on the west. It is thrown off to the south from the Allah Koh ridge between Kabul and Ghazni, and, running southwards without a break, forms the system of mountains of Eastern Afghanistan and Baluchistan. They stretch from lat. 31° 35' 39" to 34° 40' 59" N., and from long. 69° 58' 39" to 70° 0' 45" E., thus bordering the whole Dehrajat in Bannu, Dehra Ismail Khan, and Dehra Ghazi Khan districts. The highest peak, the Takht-i-Sulaiman, nearly as west of Dehra Ismail Khan town, has two summits, respectively 11,295 and 11,070 feet above sea-level. The Kuram forms almost the only river of any importance, taking its rise amongst their dry summits. Length from north to south about 350 miles. They form the watershed between the Indus and the Helmand. The axis of this chain runs close to Ghazni, which is elevated 7726 feet, and to Quetta 5540 feet. The highest part of the chain is near the Koh-i-Baba. It is called the Safed Koh, and is 14,000 feet high. Near Ghazni it is 9000 to 10,000, and near Quetta the same, the peak of Chahal-Tan being 10,500 feet. The east face dips rather steeply to the Indus, but the west declivity, much more gradual, to the table-land of Seistan. From Tank down to Siud, the most important features in the range of hills are the three Tokes. These tokes are the narrow precipitous defiles separating the outer from the inner range. In places their gorges are so confined as to resemble fissures in the rock, not more than ten yards wide, and interrupted by rocks running right athwart the defile; occasionally it widens out, and the bed thus formed is choked up with sand. These glens and ravines, almost impassable to strangers, can be easily footed by mountaineers and their horses. From these defiles, running parallel with the outer range, there are numerous

SULEA.

outlets opening into the plains. The base of the hills is skirted by a Mehra, or open uncultivated plain from 10 to 20 miles' broad, having villages on either side; it becomes contracted towards the south, near Dehra Ghazi Khan. In this vicinity it is overgrown with brushwood, but elsewhere it is generally a naked waste, without any sign of life or vegetation. Cultivation is scattered, and depends for irrigation on tanks, and on the mountain torrents rudely trained to descend in steps and terraces.

SULEA or **Sele**. **BENG.** The Polynemus sele, a large fish of the river Ganges and Bay of Bengal. It is migratory in habit, and in the cold weather enters the Bengal rivers in great shoals. Its swimming-bladder, as isinglass, is of value as an article of commerce, and the fish is esteemed as food. It is the Kala-min, **TAM.**, of John of Tranquebar, and abundant in the Kistna and Godavery. From 8 to 12 oz. of isinglass may be obtained from each fish. Dr. McClelland supposed that isinglass is also afforded by a far larger species, namely, *P. tetradactylus*, Telia or Teriya bhangam, identical with the maga-jellee of the Coromandel coast, and which Buchanan often saw six feet long in the Calcutta bazar, and was informed it sometimes equalled 320 lbs. avoirdupois in weight. It is seldom used by Europeans. McClelland says he has frequently seen them loading whole cavalcades of carts on their way to the Calcutta bazar during the cold season.—*Indian Fishes*, pp. 183, 184; *Royle on Isinglass*.

SULIMAN, a merchant of Bussora who made several voyages to India from the Persian Gulf, of which he wrote an account, A.D. 851 (A.H. 237). He visited India when Balhara was ruled by the Balabhi sovereigns. He gives a tolerably coherent account of the seas and places between Oman and China, —the sea of Persia, the sea of Lar (which washes Gujerat and Malabar), the sea of Harkand (from the Dibajat or Maldives, and Sereudip or Ceylon, to Al Ramni or Sumatra); the Lankha-balus or Nicobar Islands, and the two (Andaman) islands in the sea of Andaman, and of Kalabar, a dependency of Zabai (Java); Tayumah (Tiyoman Island), Kadrang (Siam), Sanf (Champa and Camboja), and Sandar Fulat (Pulo Condore). The port in China frequented by the Arabs was Khan-fu (the port of Kinsay or Hang-cheu). He notices the abstaining from wine of the Hindus. He voyaged to India and China in the beginning of the 9th century. His principal establishment was probably at Bussora. His book is styled Salsilat-ut-Tawarikh, and it was continued by Abu Zaid-ul-Hasan of Siraf.—*Ell. Hist.* p. 7; *India in the 15th Century*.

SULIMAN, prince of Nera, is by all the historians of his nation, and also by the more accurate Christian writers, affirmed to be forefather of the Turkish emperors. Suliman was of the noblest Oguzian family among the Scythians, and head of a horde or tribe of Tartars near the Caspian Sea. By these, as well as by the neighbouring people, Suliman was proclaimed by the title of shah. Treading in the steps of the great Chengiz Khan, he came forth from his country with 50,000 followers, the flower of the Scythian youth, and overran not only the neighbouring regions, but all Azerbaijan and Syria, as far as Aleppo. When the news of these conquests was brought to the Persian court, the name Turk, common to the

SULPHUR.

Chengiz Khan Scythians, was given also to this army.

SULIMANIA is the capital of a district now bearing its name. It stands in lat. 35° 28' 28" N., and long. 45° 17' 3" E., and is the metropolis of South Kurdistan. The people of this district are, in general, of low stature, but well-proportioned, robust, and healthy, and of a much fairer tint than the swarthy Arabs, or their Kurdish brethren in the neighbourhood of Kermanshah. A little way out of the direct road to Sulimania is a range of low hills crowned with a regular line of rock rising from their clayey and sulphurous brows. On the side of one of these hills, and which faces the north-west, Strabo described naphtha springs, ten in number. The springs consist of several pits or wells, seven or eight feet in diameter, and ten or twelve deep. The whole number are within the compass of 400 or 500 yards. A flight of steps in each pit, cut for the purpose of approaching the fluid, which rises and falls according to the dryness or moisture of the weather. The natives lave it out.—*Porter's Tr.* ii. p. 440; *Rich's Kurdistan*, i. p. 63; *Mignan's Tr.* p. 329.

SULMA. **HIND.** A peculiar kind of gold tinsel for embroidery. Gold and silver thread used in making turbands, slippers, and hookahs.

SULPHUR, Brimstone.

Kibreest,	ARAB.	Balirang,	MALAY.
Kan,	BURM.	Gowgird,	PEBS.
Shih-liu-hwang, .	CHIN.	Enxofre,	PORT.
Svovi,	DAN.	Syera,	RUS.
Zwavel,	DUT.	Gandhaka, SANSK.	SINGH.
Soufre,	FR.	Azufre,	SP.
Schwefel,	GER.	Svafvel,	SW.
Gaogird, Gandak, .	HIND.	Sanyaya, Malliang,	TAG.
Solfo, Zolfo, . . .	IT.	Gendagum, . . .	TAM.
Walerang,	JAV.	Kyukyurt,	TURK.

Sulphur, from Sul, salt, and *sur*, fire, was employed in medicine by the Greeks, Arabs, and Hindus. Native or virgin sulphur uncombined, is either a volcanic product, or occurs in beds in many parts of the world; found in combination with metals, as in the ores called pyrites, the sulphurets of iron, copper, lead, mercury, etc., whence it is obtained by roasting. Distilling it from earthen pots arranged in two rows on a large furnace, the sulphur fuses and sublimes, and passes through a lateral tube in each pot into another place on the outside of the furnace, which is perforated near the bottom, to allow the melted sulphur to flow into a pail containing water, where it coagals and forms rough or crude sulphur. This being re-distilled, forms refined sulphur. When fused and cast into moulds, it forms stick or roll sulphur.

The great repositories of sulphur are either beds of gypsum and the associated rocks, or the regions of active or extinct volcanoes. In the valley of Noto and Mazzaro in Sicily, at Conil near Cadiz in Spain, Bex in Switzerland, and Oracow in Poland, it occurs in the former situation. Sicily and the neighbouring volcanic islands, Vesuvius and the solfatara in its vicinity, Iceland, Teneriffe, Java, Hawaii, New Zealand, Deception Island, and most active volcanic regions, afford more or less sulphur. The native sulphur of Sicily occurs in beds along the central part of the south coast and to some distance inland. It is found in the United States of America, on the Potomac.

Most of the sulphur brought to Hindustan contains a considerable portion of orpiment,

being much less pure than either that which is dug out of the solfatara near Naples, or that imported from Sicily.

Sulphur and saltpetre are found in the mountains behind Teheran; also in Kishm and in a hilly tract near Khamir, a town on the Persian continent, about 25 miles N.E. from Luft. It is met with in the district of Balkh; also, according to Morier, at Balianlia in Persia. In Baluchistan it is got from the Suni mine, on the ridges separating Saharawan from Cutch Gandava; the great mart for its sale is Bagh in Cutch Gandava; also in mountains south of Kalat, in the province of Mekran.

Sulphur, somewhat mixed with impurities, occurs in the Murree Hills, and the Sulaiman Hills near Dehra Ismail Khan, at Kalabagh. It is found extensively throughout the Salt Range.

The valley of Puga in Ladakh, from whence borax is obtained, yields also sulphur. The Puga sulphur mine is situated a short distance from the Rulangchu, a small stream which is full of hot springs, and runs into the Indus at the foot of a gypsum cliff. Besides the numerous springs charged with sulphuretted hydrogen, and which deposit sulphur on the rock over which they pass, and on the grass and weeds by their sides, sulphur in a mineral form occurs near the surface of the nummulite limestone at Jabba, a little above the petroleum springs, in a white porous gypsum. Sulphur also occurs near Panobar, four miles from Shadipur, on the Indus. The crystals picked out of the rock are called Aunlisar.

In Udaipur it is to be met with, but of a quality inferior to that which is brought from the gulfs of Cutch and Persia. It is found in small quantities in Salem, Masulipatam, Guntur, Uddapah, and Trichinopoly, along with gypsum in marl and clay beds, and in form of metallic sulphurets.

In the Wodiapolliam jungle, south of Wolandurpet, in the N. Arcot district, and which extends E. and W. across the Peninsula, a sulphurous earth is said to be found, covering an extent of low swampy ground, and the sulphur effloresces on the friable brown earth after rains, in yellow crystals.

In Upper Burma it is manufactured from metallic sulphurets to about four tons yearly. It is also made by the Shans at Tounghthoo Einlay, to the S.E. of Mandalay. It is found in the blue clay, and is sublimed and condensed. It is abundant in the eight Shan States to the N.E. of Bhamo. It is seen to effloresce in the ravines near the petroleum wells of Burma.

The Malay and Philippine Archipelagos, the most extensive volcanic region in the world, contain a vast supply of sulphur. From the Philippines it is exported to China. The quantity is such at the volcano of Taal, or Bombon, in the province of Botengas in Luzon, that many ships might be loaded with it.

In the volcanic district in the northern end of the island of Formosa are three solfataras. One of these is about five miles east from Tamsui, and a superior one is three or four miles to the north-east. The pits are about 1750 feet above the sea, in a rocky gorge in the mountains, and clouds of steam and sulphureous vapour issue from numerous vents in the rocks. Several hot springs and pools occur, and a miniature geyser throws intermittent jets of boiling water to a height of fifty or sixty feet. A third solfatara is near the village of

Kim-pao-li, seven or eight miles N.W. of Kelung. The sulphur is obtained by a rude process of melting; when the frothy slag is skimmed off, the heavier impurities sink to the bottom of the shallow iron pan, and the liquid sulphur is ladled out into wooden buckets, which are broken up when the sulphur has become solid. Similar solfataras exist in Satsuma, in the island of Kiu-siu, in Japan. But the greatest quantity of sulphur of Japan is brought from the Satsuma province. It is dug up in a small neighbouring island, which, from the great plenty it affords of this substance, is called Iwognasema, or the sulphur island. The greater part of the sulphur which is exposed for sale in the Indian provinces is brought from Muscat, from Sumatra, or from the Bauda Island called Gunong Api. The Chinese obtain their supplies from the volcanic districts of Turfan, Tangut, and Sze-chuen, and from Satsuma in Japan; formerly it was brought as tribute from Siam and Sumatra.

Sulphur springs exist in many parts of Java and Celebes, and in the Pekalongan district west of Mount Prau. At the base of a high volcanic peak in the island of Damma is another. In China, sulphur springs are met with near Chefoo, and waters containing sulphuretted hydrogen and sulphurous acid gases are not uncommon. — *Bikmore*, p. 126; *Masson's Journeys*, ii. pp. 124-149; *Mason's Tenasserim*; *Thomson's Tibet*, p. 168; *History of Japan*, i. p. 107; *Walton's State*, p. 37; *Mrs. Hervey's Tartary*, i. p. 163; *Adams, Naturalist in India*; *Powell*; *Cat. Ex.*, 1862; *Smith's China*.

SULPHURIC ACID, Oil of Vitriol.

Maulkibrit, . . .	ARAB.	Acidum sulphuricum, LAT.
Liu-hwang-yu, . .	CHIN.	Arak-i-gowgird, . .
Acido sulfurique, .	FR.	Gandaka rasa, . .
Schwefel-saure, . .	GER.	Ghendaga travagum, TAM.
Gandak-ka-tezab, .	HIND.	

This acid is produced in small quantities in nature, as near volcanoes, in some acid springs, and it exists in combination in numerous sulphates, especially those of lime (gypsum) and of magnesia, found as minerals, also in the water of springs. It was known to the Arabs, Persians, and Hindus. Sulphuric acid appears, from its name, to have been originally made from the decomposition of sulphate of iron. In the present mode of making sulphuric acid, sulphurous acid from burning sulphur, nitric acid vapour, and steam, are simultaneously admitted into oblong leaden chambers, so partitioned that the vapours can only advance slowly, and thus allow the whole of the sulphuric acid to be deposited. Sulphuric, nitric, mixed nitric or aqua regia, and hydrochloric acids, are all made at Lahore, and sulphuric acid is largely made at other parts of India.—*Royle*; *Powell*.

SULS, an ornamental style of Arabic writing.

SULTAN. ARAB. King. The Adal Shahi dynasty of Bijapur, the Bahmani dynasty of Beder, Kutab Shahi dynasty of Hyderabad, Tipu son of Hyder Ali of Mysore, Kauran of Herat, the rulers of Johore and Palembang, all took this Arabic title. Tipu engraved it on his seal. Razzia, eldest daughter of Altamsh, whose reign lasted from A.D. 1235 to A.D. 1238, took this title under its feminine form, Sultana. Sultant is dominion, rule. Sultan-us-Sulatin, king of kings, emperor.

SULTANIAH was built as a royal residence by Oljaitu son of Argun, the eighth of the Mongol

khans of Persia, in 1305. Long after the destruction of the city by Timur, indeed into the 17th century, the tomb of Oljaitu was still magnificent, and especially noted for its colossal gates of damasked steel. The city was reoccupied by some of the Persian kings in the 16th century, till Shah Abbas transferred the seat of government to Isfahan. The ruins were of vast extent in Chardin's time. The present dynasty of Persia has again adopted Sultaniah as a summer residence. Pope John XXII. set up an archbishopric at Sultaniah in 1318, in favour of Francis of Perugia, a Dominican, and the series of archbishops is traced down to 1425.—*Yule, Cathay* i. p. 49; *Porter's Tr.* ii. p. 471.

SULTANPUR, in a saline tract in Gurgaon and Rohtak district, Panjab, area 1565 acres. Salt is manufactured from brine in wells, evaporated by solar heat in shallow pans. This tract lies on the banks of the great Najafgarh jhil or lake, and the principal works, both as to quantity and quality of produce, are in a cluster of villages on the borders of the two districts. The number of wells 330, and the pans 3799. 50,000 tons could be turned out annually.—*Imp. Gaz.*

SULTANPUR, a British district in the Rai Bareilly division of Oudh, lying between lat. 26° 39' and 27° 58' N., and between long. 81° 36' and 82° 44' E. Population, 1,000,336 persons. Among low castes, the Ahir are the most numerous, forming nearly 10 per cent. of the population, followed by the Chamar and Pasi. Gujar are more common in Sultanpur than in other districts of Oudh. Among the more skillful agricultural castes, Muraas are numerous, but Kurmi are remarkably few.—*Imp. Gaz.*

SULTAN SAKADA is a deity worshipped by the Kur. Sakal Deva, or Sakra Pen, the chain-god, is worshipped in Seone and elsewhere.

SULTAN SAKHI SARWAR, a Muhammadan noted for his liberal and charitable disposition, and great generosity of character. On his death he was exalted to the position of a saint, and during February to May a fair is held at the shrine, to which annually about 200,000 pilgrims, Sikh, Hindu, and Muhammadan, resort. It is at the mouth of the Sierec pass leading to Kandahar, and is built on the skirt of the mountain. There are about 1650 priests, who issue to poor people *parwane* or orders in the name of Sakhi Sarwar.

SULTAN SARWAR, a Muhammadan saint whose shrine is at Baluch, four cos from Multan. He was distinguished for piety and purity of manners, and died as a martyr with his brother, fighting against a troop of idolators, and was buried with his wife (who died of grief) and his son in the same tomb. Several miracles are related as having happened at his tomb.—*Araish-i-Mahfil*.

SULU ARCHIPELAGO is a chain of many islands which stretch from the N.E. point of Borneo to the island of Mindanao. Sulu, the chief island, is high, 35 miles long, and from 5 to 10 broad; it lies in long. 121° E., near the centre of the Archipelago. The amount of land available for agriculture is about 200,000 acres. Soil volcanic in origin, with enormous depth. This group is inhabited by a warlike race, bearing in their personal appearance a strong resemblance to the Malays. In 1775 the Sulu people attacked and drove the British from Balaubangan. Sulu had,

even then, long been an emporium not only of regular traders from most nations, but the headquarters of piratical marauders, who there found a ready market for enslaved victims and heterogeneous plunder, and whose descendants, to this day, are proud of the deeds of their ancestors. Spain had a military station there in order to protect the Philippine Islands, and in 1883 assumed the sovereignty of Sulu. The Muhammadan religion has made progress in Mindanao and the Sulu Islands, as has the Malay language, the usual channel through which it has at all times been propagated over the islands of the Indian Archipelago. There is a considerable trade between Sulu and Singapore in *bêche-de-mer* and pearl shells, and a few pearls.—*Keppel's Ind. Arch.* i. pp. 56, 57.

SUMACH. Sir A. Burnes tells of colossal idols and innumerable excavations called *sumach*, to be seen in all parts of the valley of Bamian for about 8 miles, and still form the residence of the greater part of the population. A detached hill in the middle of the valley is quite honeycombed by them, and is called the city of Gulgula. Caves are in greater number on the north side of the valley where the idols occur, on all sides of which excavations occur.

SUMACH, Shumac.

Tumtum, . . .	ARAB.	Sumac, . . .	FR.
Shih-chu-yu, . . .	CHIN.	Schmack, . . .	GER.
Sumak, . . .	DAN., SV.	Sommaco, . . .	IT.
Smak, . . .	DUT.	Sumak, . . .	PERS.
Divi-divi, Libi-libi, . . .	ENG.	Sumagre, . . .	PORT.

The *sumach* trees of Europe are the *Rhus coriaria* and *R. cotinus*, that of India is the *Cæsalpinia coriaria*, that of China is the *Rhus venenata*. The *Cæsalpinia coriaria*, yielding *Divi-divi* of commerce, was introduced about A.D. 1830 by Dr. Wallich. It is a hardy plant, of easy cultivation; it requires a little care, attention, and watering during the first year, or till the plant attains the height of two or three feet; it does not come into full bearing till about the third year, but in favourable localities it attains a height of 10 to 16 feet, and the produce of one full-grown tree is about 70 lbs. of pod, which have been valued at £8 to £12 per ton as a tanning substance. It is a good hedge plant, and bears pruning. Its pods were used for tanning at Hunsur, but it is questionable if it will ever come into competition with the bark of the *Cassia auriculata*, a wild shrub abundant on waste ground in the Peninsula. *Divi-divi* at Hunsur answered admirably for light skins, such as sheep and goat for fancy leathers, but for strong hides it is not so suitable; it does not, as the tanners call it, fill the hide, and instead of pliant, thickish leather, gives a thin, hard material. *Rhus cotinus*, L., and *R. coriaria*, L., shrubs of South Europe and the Levant, are extensively employed in tanning light-coloured leathers, and also as an orange-coloured dye. *Sumach* from Sicily has been sold at 12s. to 14s. 6d. the cwt. in London.

SUMAH. SIND. A tribe of Jat, though they are generally known by the former title. Such also are the Machi and numerous other subdivisions of the Jat tribes.

SUMAICHA, one of the *nyad* or proselytes to Islam, from the Soda race, numerous both in the Thul and the valley, where they have many hamlets. They resemble the Dhoti in their

habits, but many of them associate with the Sehraï. They never shave or touch the hair of their heads. They allow no animal to die of disease, but kill it when they think there are no hopes of recovery. The Sumaicha women never veil their faces.

SUMAJ-BARI. At Kulna is the Raj-bari of the raja of Bardwan, several noble buildings and lofty temples; there is also the Sumaj-bari, or the houses of sepulchre, where a bone of every deceased member of the raja's family is deposited. The raja belongs to the Kshatriya class, and observes the custom of preserving the ashes of the dead. They showed here the bone of the last raja, wrapped up in a rich cloth. It is placed on a velvet musnud with cushions, and silver salvers, tumblers, hookahs, rose-water, and attar-holders in front of the seat, just as the late raja used to sit with all the paraphernalia of state about him.—*Tr. of Hind.* i. p. 23.

SUMALI ARAB. A people on the African coast, and found in Aden and along the west coast of Arabia. Those on the coasts are slaves or their descendants, brought from the interior of Africa by the traders. The dress of the men consists of a white cloth wound round their waist, one end of which, after being carried across the breast, is thrown negligently over the shoulder. In addition to a cloth of this kind of smaller dimensions, the women wear a piece of tanned hide round their waist, to which is added a smaller apron of the same material, suspended by loops over the shoulder, to conceal their breasts. The hair of the men is frizzled into large ringlets, several of which hang on either side of the face. The hair left in the middle is also frizzled and raised by the same means, the whole being anointed with large quantities of mutton fat. Through the upper part they thrust a straight piece of wood, resembling in form and size a skewer, which serves the double purpose of a comb, and also as an instrument for adjusting their curls.—*Wellsted's* Tr. ii. p. 370.

SUMANAP. The industrious, peaceful, and numerous people who speak the Madurese language, with its dialect the Sumanap, occupy the island of Madura, divided from Java by a strait, and form in some districts the bulk of the population on the opposite shores of Java.

SUMANTU, the collector of the hymns of the Atharva Veda, a pupil of Vyasa. Sumantu is mentioned in the Hindu Puranas as a descendant of Vasishta. He is said to be the author of a work on civil law. His doctrines were, that there is in nature an uncreated seed, from which all beings spring.—*Ward,* iv. p. 52.

SUMATRA, a great island at the opening of the Eastern Archipelago. Nicolo de Conti, of Venice, returned from his oriental travels in 1449, and communicated to the secretary of Pope Eugenius v. a consistent account of what he had seen. After giving a description of the cinnamon and other productions of Zeilam, he says he sailed to a great island named Sumatra, called by the ancients Taprobana, where he was detained one year. His account of the pepper plant, of the durian fruit, and of the extraordinary customs of the Batech or Batta people, prove him to have been an intelligent observer. Sumatra was shortly after visited by Odoardus Barbosa, who wrote a journal of his voyage in 1516, in which he speaks

of Sumatra with great precision. The productions of the island, he says, were chiefly exported to Catai or China. From Sumatra he proceeded to Banda and the Moluccas, from thence returned by Java and Malacca to the west of India, and arrived at Lisbon in 1508.

Sumatra consists of a rectilinear belt of elevation, stretching from the parallel of Penang to that of Bantam, and shutting in the Malay Peninsula and China Sea from the Indian Ocean. Its extreme length is about 925 geographical miles, and average breadth rather more than 90 miles. The gross estimate of Lieut. Melville van Carnbee is 8035 leagues = 128,560 English square geographical miles. The islands on the west coast give a further surface of 5000 miles. Its S.W. coast has a narrow tract of low land, beyond which the mountains suddenly rise.

Talang, . . .	11,820 ft.	Indrapura, estimated at . . .	12,255 ft.
Singalang, . . .	9,634 "	Luse, territory of Acheen, in	
Merapi, . . .	9,570 "	3° 40' N., . . .	11,250 "
Sago, about . . .	5,862 "		
Ophir, . . .	9,770 "		
Kalabu (west of		Lombok, according to Melville	
Rau), . . .	5,115 "	van Carnbee, by triangulation, about . . .	12,363 "
Seret Merapi, . . .	5,860 "		
Pitya Keling, . . .	680 "		
Lubu Raja, . . .	6,234 "		

The island is divided into a number of petty states, the chief of which are Acheen, Delly, Langkat, and Siak. British political relations with Acheen date as far back as 1602; the various attempts, however, which were made to establish a factory at Acheen, failed. In 1815 a revolution broke out, and the reigning sovereign, Jowhar Shah, a dissolute prince, was deposed, and Syul-Alam Shah, the son of a wealthy merchant, who was related to the royal family, was raised to the throne. After protracted negotiations, however, the ex-*raja* was restored, through the mediation of Sir Stamford Raffles, and a treaty was concluded with him. With Delly, Langkat, and Siak, treaties exist, but after the treaty with the Dutch, of 1824, the diplomatic connection of the British with Sumatra ceased. In Sumatra island there are at least 15 nations, and the total population has been variously estimated at from 2,500,000 to 7,000,000.

Netherland India has the following settlements on the coasts of Sumatra:—

	Geog. Sq. Ms.	Euro- peans.	Natives.	Chin- ese.	Arabs.	Others.
Padang, . . .	2200	1372	937,007	3,997	77	707
Tapaneli, . . .	..	202	171,012	769	29	137
Bencoolen, . . .	455	159	142,501	569	17	3
Lampoon, . . .	475	77	125,401	246	18	14
Palembang, . . .	2558	280	621,900	4,245	1941	124
East Coast, . . .	708	435	110,071	29,857	..	24
Atche, . . .	928	228	474,300	3,509	222	880

Wild Tribes.—There are two races, at the opposite extremes of the civilisation of the island. The one is a half-wild people, the scattered remnants of the aboriginal inhabitants. In the north, they are known under the name of Orang Lubu; the Battas describe them as having inhabited Petibi before they occupied it (Willer, *Tigd.* v. N. Ind. 8th y., 2d part, p. 402). They are found up the Mandau above Siak (J. Anderson, *Mission to Sumatra*, p. 349). In the south, they are mentioned under the name of Orang Kubu by Marsden and other writers who resided on the west coast; and we know, from information received from Malays, that they are found in the

interior on ascending most of the large rivers whose embouchures are on the east coast. Major Sturler, in his account of Palembang, gives a particular description of the Orang Kubu, who in condition and habits entirely agree with the wilder tribes of the Malay Peninsula. The same remark applies to the Orang Gunong of Banka.

The southern extremity of the mountain belt is inhabited by the Orang Abung, long a head-hunting race. These are the mountain nomades; but there are also half-wild people, some living in boats in the salt-water creeks, and others in the sago forests and low jungles of the east coast. In this lowest class of Sumatran tribes should be included those inhabiting some of the western islands, such as the Egunoans. Their physical resemblance to the Malays is everywhere remarked, and (Journ. Ind. Arch. ii. pp. 392, 517) there seems no room to doubt that they are the aborigines of the Malayan region of Sumatra, and the remnants of the stock from which the present Malays have descended. Their numbers may be provisionally assumed at 6000. The Abung and Kubu in the south appear to be about 2000.

Orang Malayu.—The Malay races are the principal inhabitants of the island. They entirely occupy the wildest and middle region of Sumatra, extending from the Rakan nearly to the Palembang on the east coast, and from Ayer Bangis to Kataun on the west coast, a length of about 275 miles, with an average breadth of about 190 miles, and a superficies of 52,250 square miles, or little short of one-half of Sumatra.

The Malay population is distributed as follows:

1. Malays of the mountain region.

a. Menangkabau.

b. Malays of the region of Sapulo Bua Bandar and Gunong Sungei Pagu.

c. The Korinchi.

d. The Rawa.

2. Malays of the hilly territories to the west of the mountain region.

a. The seaboard of Menangkabau (1700 square miles).

b. The seaboard of Sapulo Bua Bandar, having a surface of 1300 square miles.

3. The Malays of the low lands or eastern countries.

4. The Malays of the east coast of the northern region.

The *Batta* of Sumatra are not unlike the Malay and Binua of the Malay Peninsula in feature, but are a finer race of men. The *Batta* occupy wholly the valley of Mandeling, and have an alphabet and language of their own. The women wear the sarong only, from the waist to the knee.

The *Batta* language is alphabetic, and invented by themselves. It has several dialects. They believe in evil spirits and omens. They are an inland people, the Malays from Menangkabau having spread and occupied all the coasts. All the *Batta* beyond the territories of the Dutch are from time immemorial cannibals. On the Dutch acquiring the plain of the Mandeling valley, the *Batta* dwelling there were compelled to abandon their cannibalism. The writings of Marco Polo show that, so early at least as 1290, they were addicted to this. The raja of Sipirok assured the Dutch Government at Padang that he had eaten human flesh at least forty times, and that nothing he had ever eaten was equal to it. Professor Bikmore, travelling amongst them in

1865, confirms what Sir Stamford Raffles wrote in 1820, after visiting Tapanuli Bay, viz. that for a person convicted of adultery, midnight robbery, prisoners of war, intermarrying into another tribe, and for treacherously attacking a village, house, or person, the punishment is to be cut up and eaten.

The races blend with each other at their boundaries, many districts and villages in the northern region, for instance, being peopled by Malays and Battas, Malays and Achinese, or Achinese and Battas, and most of the settlements near the coast possess in addition a very mixed population of foreigners from the rest of the Archipelago, China, India, and Arabia, while Europeans are found in small numbers in the Netherlands possessions, chiefly at Palembang, Bankaulu, and Padang, little more than two millions for the entire population. Mr. Francis estimated 4,500,000, but the following table exhibits ascertained results:—

	Area.	Population.	Per sq. mile
I. Wild tribes, . . . . .	...	6,000	...
II. Orang Malayu, . . . . .	...	...	...
<i>Mountains, viz.—</i>			
Menangkabau,	3,000	385,000	128
Its seaboard,	1,700	64,350	38
Sapulo Bua Bandar,	3,250	40,000	15
Its seaboard,	1,300	31,200	24
Korinchi,	5,000	75,000	15
Rawa,	1,600	25,000	16
<i>Northern seabords—</i>			
East coast,	3,000	60,000	20
West coast,	3,400	24,000	80
Eastern lowlands and hills,	30,000	184,000	5
Malays elsewhere, . . . . .	...	10,000	...
<i>Southern Races, viz.—</i>			
III. Orang Palembang,	13,400	201,000	15
IV. Orang Rejang,	4,500	72,000	16
V. Orang Serawi,	4,875	160,000	32
VI. Orang Lampung,	8,280	92,900	11
VII. Orang Batta, . . . . .	...	4,300	...
<i>West Coast, viz.—</i>			
Eastern lowlands and hills,	3,200	63,250	20
Mountain region, . . . . .	...	...	...
Northern division,	1,800	36,000	20
Middle division,	4,176	125,250	30
Southern division,	6,624	83,000	12
VIII. Orang Ache,	22,600	450,000	20
<i>Western Islands, viz.—</i>			
IX. Orang Engano,	400	900	2
X. Orang Mantawai,	2,240	5,000	2
XI. Orang Nih or Nias,	1,800	286,000	160
XII. Orang Marawi,	600	3,000	5

The inhabitants of Komring and of Komring Ulu have a peculiar language; their writing, in letter and sound, agrees much with that of the Battas. The menarch (dancing) and berswua (singing) also differ in Komring from what they are in the other districts. The young girls dress better, are more pleasing in their movements, and their voice is more harmonious than that of women of the country usually is in singing. Girls are able, in free, agreeable, and melodious tones, to pour forth improvised couplets and verses in honour of persons and events. In former days the concubines of the sultan were chosen from the women in Komring. The Sumatrans speak of tigers with a degree of awe, and hesitate to call them by their common name (rinan or maching), terming them respectfully *satwa* (the wild animals), or even *nenek* (ancestors), as really

believing them such, or by way of soothing and coaxing them.

In Sumatra and the groups of islands on its western coast, in addition to the Malay, there are at least nine other languages, five of which, the Ache or Acheen on the north-western end of this island, the Batak or Batta, the Korinchi, east of the Batak, the Rajang or Rejang, and the Lampung, are cultivated or written tongues. There are also several rude languages among the scattered tribes on the mainland. The Batak or Batta nation lie to the east of the Malays. The Lampung nation, which occupies that portion of the south-western side of Sumatra which lies opposite to Java, divided from it only by the Straits of Sunda, has its own peculiar alphabet, which consists of 19 substantive letters, with double or treble consonants, making them up to 44. It has a great deal of that angular, linear, and meagre form which characterizes the other Sumatran alphabets. The Lampung people occupy the eastern end of Java, on the Straits of Sunda, and fronting the western extremity of Java. In the groups of islands on the western coast of Sumatra are several unwritten tongues, amongst which may be named that of the Pogy or Pagi Islands, the language of the Nias, and that of Maros. In Sumatra, beginning from the west, the first evidence of a native written character is among the Batak, and it is singular that a nation of cannibals should possess the knowledge of letters. There was assuredly nothing of the kind in Europe or continental Asia until long after men had ceased to eat each other. The form of the Batak letters is horizontal. The Bhima alphabet formerly in use amongst the Bhima people in the island of Sumbawa, east of Sumatra and Java, has now given way to the alphabets of the Celebes. The Acheen and Malay of Sumatra are written in the Arabic character. The Rejang, at Taba Pananjong in Sumatra, are a distinct race from the Malays of Menangkabau, though they belong to the Malay race. They have a language and alphabet of their own.

A Sumatran scrupulously abstains from pronouncing his own name, merely as a punctilio in manners. It occasions him infinite embarrassment when a stranger, unacquainted with their customs, requires it of him. As soon as he recovers from his confusion, he solicits the interposition of his neighbour. He is never addressed, except in the case of a superior dictating to his dependent, in the second person, but always in the third; using his name or title instead of the pronoun, and when these are unknown, a general title of respect is substituted, and they say, for instance, 'Apa orang kaya punia sika?' 'What is his honour's pleasure?' for 'What is your or your honour's pleasure?' When criminals or ignominious persons are spoken to, use is made of the personal pronoun *kau* (a contraction of *angkau*), particularly expressive of contempt. In Sumatra there were formerly three perfectly distinct kinds of marriage,—the 'Jugur,' in which the man purchased the woman; the 'Ambel-anak,' in which the woman purchased the man; and the 'Semando,' in which they joined on terms of equality. In the Ambel-anak marriage, the father of a virgin makes choice of some young man for her husband, generally from an inferior family, which renounces all further right to cr

interest in him, and he is taken into the house of his father-in-law, who kills a buffalo on the occasion, and receives 20 dollars from his son's relations. After this, the *buruk bakh'nia* (the good and bad of him) is invested in the wife's family. If he murder or rob, they pay the *bangun* or the fine. If he be murdered, they receive the *bangun*. They are liable for any debts he may contract in marriage, those prior to it remaining with his parents. He lives in the family, in a state between that of a son and a debtor. He partakes as a son of what the horse affords, but has no property in himself. His rice plantation, the produce of his pepper garden, with everything that he can gain or earn, belongs to the family. He is liable to be divorced at their pleasure, and though he has children, must leave all and return naked as he came.

Sumatra is known among the eastern people by the two names of Indalas and Pulo Percha (or Pritcho). No country has been more famous in all ages for gold, and the quantity procured is considerable. There are also mines of copper, iron, and tin; sulphur is gathered in large quantities about the numerous volcanoes. Saltpetre is made from the earth, which is found impregnated with it, chiefly in extensive caves, the haunt of birds, of whose dung the soil is formed; and coal is collected.

Sumatra has about fifteen volcanoes, four of which are of considerable importance,—Dempo, 10,440 feet; Indrapura, 12,140 feet; Talang, 8480 feet; and Merahi, 9700 feet: the others are of less elevations, 6000 or 7000 feet.

Sumatra has the *Galeopithecus*, the *Gymnura Rafflesii*, *Cervus rusa*, *Cervus hippelaphus*, *crocodilus biporcatus Rafflesii*.

Mr. George Windsor Earl, in a pamphlet on the Physical Geography of South-Eastern Asia and Australia (1855), pointed out that the islands of Sumatra, Java, and Borneo are connected with the Asiatic continent by a shallow sea; and that a similar shallow sea connects New Guinea and all the adjacent islands with Australia, these last being all characterized by the presence of marsupial animals. Carrying out Mr. Earl's suggestion, Mr. Wallace maintains that some of the islands had long been connected with the Asiatic continent, and others equally long with that of Australia; and that a line of separation can be drawn between these; and he designates the Asiatic portion Indo-Malayan, and the Australian division Austro-Malayan. The seas between Sumatra, Java, and Borneo are so shallow that ships find anchorage in any part of it, as it rarely exceeds 40 fathoms, and the seas eastward to the Philippines and Java rarely exceed 100 fathoms. The elephant and tapir of Sumatra and Borneo, the rhinoceros of Sumatra and the allied species of Java, the wild cattle of Borneo, and the kind long supposed to be peculiar to Java, are now all known to inhabit some part or other of Southern Asia; and of the birds and insects, every family and every genus of the groups found in any of the islands occurs also on the Asiatic continent, and in a great number of cases the species are also identical. The great islands of Java, Sumatra, and Borneo even yet resemble, in their natural productions, the adjacent parts of the continent almost as much as such widely-separated districts could be expected to do, even if they formed part

of the Asiatic continent. The Philippine Islands agree in many respects with Asia and the western islands, but present some anomalies. The eastern portion, on the other hand, from Celebes and Lombok eastwards, exhibits as close a resemblance to Australia and New Guinea as the western islands do to Asia. Australia has no apes, monkeys, cats, tigers, wolves, bears, hyænas; no deer or antelopes, sheep or oxen; no elephant, horse, squirrel, or rabbit. In lieu, it has kangaroo, opossums, wombats, and the duck-billed platypus. It has no woodpeckers or pheasants; but has, in lieu, the mound-making brush turkeys, honey suckers, cockatoos, the brush-tongued lorises, which are found nowhere else in the globe; and all these peculiarities are found in the islands which form the Austro-Malayan division of the Archipelago. The islands eastward from Java and Borneo form a part of a previous Australian or Pacific continent, although some of them may never have actually been joined to it. The Aru Islands, Mysol, Waigyu, and Jobie agree with New Guinea in their species of mammalia and birds, and they are all united to New Guinea by a narrow sea. The 100-fathom line around New Guinea marks the range of the paradise birds. This separation has no relation to their geological character. The Indo-Malayan and Austro-Malayan divisions hold two distinct types of the human race, the Malay and the Papuan, who differ radically in their physical, mental, and moral characters; and, under one or other of these two forms as types, the whole of the peoples of the Eastern Archipelago and Polynesia can be classed, and the line separating these two types comes near but somewhat eastward of that part of the zoological regions. This easterly jutting of the Malay line has been caused by the maritime enterprise and higher civilisation of the Malay races, who have overrun the nearer part of the Austro-Malayan region, have supplanted the original inhabitants, and spread much of their language, their domestic inhabitants, and their customs far over the Pacific. To the Malay type and to the Papuan type respectively, all the people of the various islands can be grouped. The Asiatic races include the Malay, and all have a continental origin; while the Pacific races, including all to the east of the Malay (except, perhaps, some in the Northern Pacific), are derived not from any existing continent, but from lands that now exist or have recently existed in the Pacific Ocean.—*Bikmore; London Geog. Trans.* ix. xv.; *Bombay Med. Trans.*; *Bombay Geo. Trans.*; *Brist on Volcanoes of India*, in *Ed. Phil. Jour.*, 1852; *Jour. Ind. Archip.* iii.; *Newbold's British Settlements*; *Tijdschrift v. Neerl. Ind. in Jour. Ind. Arch.*; *Cal. Rev.*, 1861, pp. 43, 48; *Marsden's Sumatra*, pp. 4, 94, 162-262; *Wallace*, ii. pp. 19, 41, 53, 60.

SUMATRAS, also Sumatrans, a term given by navigators to tempestuous squalls from the south-west, often experienced in the south-west monsoon in the Straits of Malacca. They are sudden and severe, blowing a moderate gale for 6 or 8 hours, and accompanied with loud thunder, lightning, and rain. They are so called because they rise in the direction of the island of Sumatra. The approach of the squall is betokened by a dense black cloud, which rises from behind the opposite islands of Batani, and soon overspreads the sky, casting a dark shadow over the strait,

within which the sea is lashed to foam by the strength of the tornado.—*Earl's Arch.* p. 354; *Horsfield*; *Newbold's British Settlements*, i. p. 3.

SUMBA or Sandal-wood Island, of about 4000 geographical square miles, is composed of a range of hills that rise immediately from the sea to a height of 2000 feet. It lies to the south of Flores, from the coast of which it is distinctly visible in clear weather. Mount Romba peak is 7000 feet. Vessels visit it in the S.W. monsoon from Sourabaya, and return in the N.E. monsoon with the active little ponies of the island. They are, after the ponies of the Batta of Sumatra, the best of all the horses of the Archipelago. Bikmore thinks its people are Malays, though this is questioned, and they are also said to have a different tongue. It yields sandal-wood and copper. The inhabitants of Savu possess a settlement near the south-west extreme of the island, and the Bugis traders of Ende have two or three small stations on the north coast, which are occasionally visited by small European vessels for the purpose of obtaining horses; but the natives of Sumba all dwell in the uplands, where they cultivate maize, yams, and other produce similar to that grown on Timor, and are said to use the plough, which is unknown in any other island to the eastward of Sumbawa.—*Earl*; *Bikmore*, p. 112.

SUMBACI, son of Sivaji, succeeded his father in 1680, and reigned for nine years. He was a tyrannical, voluptuous prince, but courageous. He was captured and carried to the Delhi emperor Aurangzeb, who caused him to be put to death in the most cruel manner. Sumbaci's widow and infant son Saho were subsequently made prisoners, and left in the care of Aurangzeb's daughter.

SUMBAWA, a high volcanic island, the third in a direct line east of Java. It is about three times the extent of Bali or Lombok, and divided by a deep bay into two peninsulas. It has three languages, the Sumbawa, the Bhima, and the Tomboro. The two former are written in the Bugis character, but there exists in this island a curious obsolete alphabet, ascribed to the Bhima nation, which has been displaced by that of the Celebes. In Sumbawa, the Muhammadans take a high place, and they are largely proselytizing the mountaineers. In Grobagan, at the centre of the limestone district, is a mud volcano, 16 feet in diameter. The black mud every few seconds bubbles up and subsides; it rises to a height of 20 to 30 feet, then explodes with a dull noise, scattering a shower of warm black mud in every direction; round about are warm brine springs, from which salt is extracted. Its eruptions are most frequent in the rainy season. It is called Kuwu, 'the place of abode;' and an old legend is that it is the residence of a monster snake, whose writhings cause the eruptions. Mount Tomboro rises to 8940 feet on a peninsula on the N. side of Sumbawa. On the 5th April 1815 commenced a series of frightful explosions, which lasted five days. They were heard so distinctly at Jokyoakarta, in Java, a distance of 480 miles, that troops were sent out to repel, as was supposed, some attack that had been made. Similar movement of gunboats was made at Sourabaya; and to the north the reports accompanying the eruption were heard as far as the island of Ternate, near Gillolo, a distance of 720 geographical miles. To the westward, these reports were heard at Moko-

Moko, a port near Bencoolen, which is in direct line 970 geographical miles. The ashes that were thrown out fell to the eastward, against the prevailing wind, as far as the middle of Flores, about 210 geographical miles; and westward on Java, in the mountains of Cheribon, about 270 miles from the volcano. So great a quantity of ashes were thrown out, it is estimated that on the island of Lombok, about 90 miles distant, 44,000 perished in the famine that followed; and Dr. Junghuhn calculates that within a circle described by a radius of 210 miles, the average depth of the ashes was at least two feet. During the eruption, Tomboro lost two-thirds of its previous height. A ship approaching the coast had to sail through a sea of pumice. About 7 p.m. of the 10th April, an eye-witness, the raja of Sangir, mentions that three distinct columns of flame burst forth from near the top of Tomboro, all of them, seemingly, within the verge of the crater, and on gaining some height in the air, the flames mingled in a confused manner. In a short time the whole mountain next Sangir appeared like a body of liquid fire, extending itself in every direction. Towards 8 p.m., at Sangir, stones, some as large as a man's fist, generally of the size of walnuts, fell very thick, and obscured the view of the mountain. Between 9 and 10 p.m., ashes began to fall, and soon after a violent whirlwind ensued, which blew down nearly every house in the village of Sangir, carrying their tops and lighter parts along with it. In the Sangir district next to Tomboro, the whirlwind tore up trees and threw down men, cattle, and houses. In November and December 1836, there were other eruptions. Sumbawa is thinly inhabited since the eruption of Mount Tomboro on 11th April 1815.—*Bikmore*, p. 108; *Court's Palembang*, p. 129.

SUMBOONATH, one of the oldest temples in Nepal. It was erected when Nepal was ruled by a race of Tibetans, and its possession was at one time claimed by the Dalai Lama, or sovereign pontiff of H'assa, but he has since been obliged to abandon the claim. The dagoba resembles the temple of Buddha, but is only about half its size; the spire is covered with plates of copper, gilt. It is surrounded by pagodas, as well as numerous more modern shrines of a bastard Hindu class, to which numerous Bhutya and Bhama, a tribe of Newars, resort. Occasionally the Gurkha visit these shrines, the thunderbolt of Indra, which is here exhibited, being the object of attraction to them, as they pride themselves on being orthodox Hindus.—*Oliphant's Journey*, p. 84.

SUMBUL or Sunbul, a term in Arabic and Persian works on *Materia Medica*, applied to several fragrant roots. The Sumbul root of modern commerce reaches Europe by way of Russia. A Sumbul root introduced into the French market is the root of an umbelliferous plant, which is characterized by a strong odour of musk.

Sumbul-ul-taib, or fragrant Sumbul, is the root-stocks of *Nardostachys jatamansi*, the Nardos or spikenard of the ancients, and is also applied to *Hyacinthus orientalis*.

Sumbul rumi is said to be the Narden ukluti, and supposed to be *Valeriana celtica*.

Sumbul jibali, or mountain nard, is thought to be *Valeriana tuberosa*.

Sumbul-i-farsi, or Persian Sumbul, is supposed

to refer to *Adiantum capillus veneris*; but it has the description of *Hyacinthos* applied to it, and *Polyanthes tuberosa* is substituted for it in India.

Sumbul-i-khatai, or Cathayan Sumbul, is *Angelica*.

A Sumbul of Central Asia is the root of *Euryangium sumbul*, known as the musk root.

In Persian works on *Materia Medica*, all translated from the Arabic, as, for instance, the *Mukhzun-al-Adwiah*, or *Magazine of Medicines*, we have four different kinds of Sumbul:—1. Sumbul Hindsee; 2. Sumbul Roomee, called also Sumbul Ukletee and Narden Ukletee, evidently the above Celtic Nard, said also to be called Sumbul Italian, that is, the nard which grows in Italy; 3. Sumbul Jibullee or Mountain Nard. Hence it is evident that the kinds described by Dioscorides are alluded to, and in fact the accounts given are merely translations of his descriptions. The fourth kind of Sumbul appears to be a hyacinth or polyanthus. But the first is that with which alone we are at present concerned. The synonyms given to it are—Arabic, Sumbul-al-Taib or Fragrant Nard; Greek, Narden; Latin, Nardum; and Hindi, Balchur and Jatamansi.

SUMBULPUR. 21 Mahals form the S.W. frontier of Bengal, which may be classified in four groups,—Sumbulpur, Patna, Sirguja, and Singbhum,—viz.:

<i>Sumbulpur Group.</i>		
Sumbulpur proper. Burgarh. Raigarh.	Sukti.	Bamra.
	Gangpoore.	Rehra Cole.
	Sarunghur.	Sonepore.
	Bunnie.	
<i>Patna Group.</i>		
Bora Samur. Khuriar.	Bindra Nowagarh.	Patna proper. Phuljhur.

The territories comprised in the Sumbulpur and Patna groups were ceded to the British Government by the treaty of 1803 with Ragoji Bhonsla, but all except Raigarh were restored in 1806, and finally reverted to the British in 1826. The Sumbulpur and Patna groups are in the circle of the Cuttack Tributary Mahals.—*Aitcheson's Treaties*.

SUMERU, in Hindu cosmogony, a mountain ascending 600,000 feet from the surface of the earth, and descending 128,000 feet below it. On this mountain are the heavens of Vishnu, Siva, Indra, Agni, Yama, Nirita, Varuna, Vayu, Kuveru, Isha, and other Hindu deities. At its base are the mountains Mandara, Gandha-madana, Vipula, and Suparshwa, on each of which grows a fabulous tree 8800 miles high.

SUMITRA, B.C. 2100, Jones; B.C. 57, Tod. It is from this prince the Mewar chronicles commence their series of rajas of Saurashtra. It is the last name in the Bhagavat Purana, and he is said by Tod to have been contemporary with a Vikramaditya.

SUMMA claim to be descendants of Sam, son of Noah, to give themselves importance in the eyes of other Muhammadans; there is no doubt that they are Jat converts from Hinduism. Such also are the Machi and numerous other subdivisions of the Jat tribes.

Summa have been long in Sind. They were in power as rulers from A.H. 752 (A.D. 1351) to A.H. 927 (A.D. 1520), when they were overthrown by the Arghuni. Their subdivisions are very

numerous, nearly 200. The chief seem to be the Summa sections—

Abra.	Rajara.	Nara.	Sootia.
Abraja.	Jasingorah.	Notia.	Subta.
Ageel.	Jokin.	Notiar.	Sumaja.
Amra.	Jugacoa.	Numria.	Summa.
Babra.	Jutt.	Oodbahui-	Sahd-Sum-
Beeya.	Kaka.	gora.	ma.
Bodia.	Kakajah.	Oodbahja.	Sahib-Sum-
Buda.	Kidri-pota.	Oodha.	oodha.
Budio.	Koraja.	Oodhar.	Shokhab-
Buttee.	Koria.	Oonur.	Summa.
Charahoo.	Loodia.	Oottur.	Sind-Summa
Chellaria.	Lookba.	Phool.	Dera-Sum-
Chugra.	Iound.	Phoolnabia.	mani.
Ooor.	Lukkha.	Potor.	Joona-Sum-
Dissur.	Mindra.	Pallee.	ma.
Doongua.	Moosara.	Puria.	Loond-Sum-
Gooba.	Muhur.	Rahtor.	ma.
Hajana.	Munabya.	Ramabey.	Oto-Summa.
Halla.	Munapya.	Ranbhoer.	Tukhra.
Hingoa.	Mungra.	Shora.	Vurriah.
Hingora.	Nalica.	Sooltanote.	Wahud.
Jaspupwar.	Nalus.		

The title of the Summa rulers was Jam, a dynastic designation still retained by the Jam of Beyla, the Jam of Cutoh, and the Jam of Nowanagar.

SUMPITAN. MALAY. A blowpipe used as a projectile amongst the Malay races. That of the Dyak is a piece of wood bored; that of the Bermun tribes consists of two bamboos 7 feet in length, one enclosed within the other. The external one, which is merely for strength and ornament, is about 3-4ths of an inch in diameter, and neatly carved for about a foot at each end and in the middle. To prevent it splitting, the fibrous bark of the triapi is bound round about 6 inches of the extremity, and a coating of dammer placed over it. The internal tube, which is the proper sumpitan, is of the same length with the case, but only 3-5ths of an inch in diameter. It is composed of two pieces of bamboo, united by a piece 8 inches long, which embraces the ends tightly at the junction. The bamboo used (the bulu timiang) is very light and fine-grained. The arrows (damak) are small darts, made of the stem of the birtam leaf, 10 inches in length, and 1-16th of an inch in diameter at the base, from which they gradually taper to a very fine sharp point. The base is inserted into a cone of kayu tutu (which is very porous and light) about an inch in length, and 1-8d of an inch in diameter at its base. The point of the dart is dipped for about 5-6ths of an inch in ipoh (upas). This is made by taking akar ipoh, batang ipoh (or kyas), limes, and tuba, which are bruised, boiled, and strained. To this arsenic is added. Other substances, such as pachet, jimardes, mallye, and gadong, are also sometimes added. The preparation called ipoh has the colour and consistency of chandu. An incision is made round the dart above the ipoh, so as to ensure its breaking off and remaining in the wound. Each dart is kept ready for use in a bamboo case, about 1-4th of an inch in diameter. 50 of these cases are laid side by side and united by strings. They are then rolled up and inserted into a bamboo case, which has a neat lid of jalutong. The same case contains a quantity of barok (a very light, spongy substance, also used as tinder), obtained from the arenga tree called runout. After inserting the dart into the sumpitan, a little barok is introduced. When the Binua blows into the tube, it is pressed against

the kayu tutu cone, and prevents any of the air escaping between it and the sides. In shooting, the sumpitan is held firm by both hands being tightly clasped over its end, which is inserted into a handle.

The Malay use small poisoned darts, having on their end a piece of pith or some other light substance, adapted to the size of the bore of the tube. The sumpitan has, at its farthest end, an iron sight by which they regulate their aim. It is also at this end furnished with a large double-bladed spear. Both the sight and the spear are nicely bound on with rattans, which are woven over them. The dart used is poisoned with the ipoh, which is the same as the upas and chetik of Java, described by Dr. Horsfield; the darts, which are very thin and about 10 inches in length, are pointed with the sharp teeth of fish neatly bound on to them. A Meri, who was very expert with the sumpitan, at a distance of from 15 to 20 yards could readily transfix a bird of the size of a starling with one of the little darts. The whole distance to which the arrow can be blown with anything like effect is 60 yards, and at that distance they would probably not pierce the skin. The sumpitan varies in length, being from 7 to 10 feet. It is used also by the Mui people, the Benkatan, and the Tatow, and by all the tribes of the east coast. The Idan or Meroot are said by Forrest also to possess it. Mr. Low saw specimens from the river Essequibo, in South America, which resembled those of the Dyak in appearance and size, but without the sight and the spear at the end. It is sometimes seen in India.

SUMRA, a dynasty of Agnicula Rajputs, who, in A.D. 750, succeeded to the Arabs in the government of Sind. The Sumra during the early part of their sway continued to be Hindus; indeed, many of the tribe still remain so, and roam as shepherds through the thals of Jeyulmir and the Upper Dhat country to the east of Sind. The Sumra of the desert are one of the subdivisions of the Pramara Rajputs, and from their frequently combining with the Umar, the two gave name to the large tract of country which is still recognised as Umra Sumra, and within which Alor is situated. Some of the Muhammadans of Sind so early as A.D. 1032 adopted the Karmatian schism, and the Sumra, before they apostatized from their ancestral faith to Muhammadanism, intermediately adopted the tenets of the Karmatian sect. The Sumra race seem to have ruled in part of Sind even before Mahomed's death, at least as early as A.H. 423 (A.D. 1032), and were displaced in A.H. 752 (A.D. 1351) by the Summa. The name was originally pronounced Samra. The Sumra tribes in the Kurachee district are the Kumirpota, Mitopota, Budipota, and the Norungpota. In the Hyderabad district, the Sumra are cultivators and oil manufacturers.—*Elliot*.

SUMROO, the name by which Walter Reinhardt was known to the natives of India, supposed to be a dialectal variation from Sombre, which was the pseudonym applied to him by his French comrades. He was a native of Treve, in the Duchy of Luxembourg, half French, half German, and had been a sailor in the French navy; he deserted, and entered the British service as a soldier; next he deserted the British and joined the French; then he entered the service of the Nawab of Bengal, and was the murderer of the

English Resident at Patna and all his followers in 1763. He obtained the command of a large body of men, with lands to support them, and some years afterwards he married a remarkable woman, who was called, from his name of Sombre, the Begum Sumroo. The Begum was of Muhammadan extraction. She became a Romish Christian in 1781, and for many years after Sombre's death maintained a small army and ruled her petty state at Sirdhana with great vigour. She left her property to Mr. Dyce Sombre, son of Colonel Dyce, her minister or managing man, who had married her husband's daughter. The son came to England to urge certain claims upon the Government. He married the daughter of a peer, held for a short time a seat in the House of Commons, was prominent in the law courts, and at last was declared to be insane.

The year of Sumroo's death at Agra has been stated at A.D. 1778. The Begum built a large Romish church. During the Mahratta wars she led her troops into action, riding at their head very gallantly. In 1792 she married Colonel Le Vaisseau. She died A.D. 1836.

SUN. The races of the Sun and Moon furnished two parallel lines of kings, who are supposed to have reigned in the Ayodhya, and in the tract between the Jumna and the Ganges respectively. From one or other of these all the ancient royal families of Hindustan claim to have been descended. The list of the Solar dynasty gives 95 names, and that of the Lunar race 48 names; but the lists and the narrative are so full of absurdities that no part can be taken as a basis on which to found a system of chronology.

SUN-BIRDS or honey-suckers are names of the Nectarinidæ, *Vigors*, Cynnyridæ, *Swinson*, and Promeropidæ, *Gray*, of the old world, their place in South America being taken by the humming-birds, some of the sun-birds almost rivalling their American types. Their sub-families are the Nectariniinæ of Africa and Asia; the Drepaninæ of Oceania; the Dicoeinæ of Asia and Australia; besides Promeropinæ of Africa and Cerothyne of America. The Nectariniinæ genera are *Carothera*, *Æthopyga*, *Leptocoma*, *Arachnechthra*. The purple honey-sucker of Jerdon, the beautiful blue-winged sun-bird (*Arachnechthra Asiatica*, *Lath.*), is common, and nothing can exceed the grace and elegance of its congener, the Ceylon sun-bird (*Leptocoma Zeylanica*). The brilliant green spot on the wing of the male is wanting in the female. In the gardens tiny sun-birds hover all day long, attracted to the plants, over which they hang poised on their glittering wings, and inserting their curved beaks to extract the insects that nestle in the flowers, and sucking the nectar from its flowers like a humming-bird. The male birds only have handsome plumage. They build domed nests suspended from the ends of small branches.—*Adams; Tennent's Ceylon*, p. 249; *Jerdon*. See Birds.

SUN-WORSHIP has prevailed amongst various races since the most ancient times. The Babylonian trinity was Anu, Bel, and Ea. Their goddess Ishtar supplanted Anu at Erech. Bel was lord of the visible world, and had his chief seat at Nipur. Sin, the moon-god of Ur, was eldest son of Bel. Their sun-god was Samas.

In the city of Heliopolis (Baalbec) the Assyrians celebrated the worship of the sun with great cere-

mony. The image had been brought from Heliopolis in Egypt. The Phœnician Hadad, in Syria, Palestine, and Mesopotamia, was the sun-god, representing the generative power of the sun; he was joined with the Phœnician Poseidon (Dæmarus), the water-god, and Astarte, with her cow-horns, the producing and nourishing earth.

The Egyptian sun deity was known as Mu, Osiris, and Ra.

Ham, the chief god of Thebes, was Amun-Ra, the sun, the king of the gods. Every king of Egypt was styled Ze Ra, or son of the sun, and he was often sculptured as the third person of the trinity in the place of Chonso. With the spread of the Theban power, the worship of Amun-Ra spread. In Nubia and at Elephantine, to the south of Thebes, the chief god was Kneph, the spirit, with a ram's head, who, in imitation of the worship in the capital, became Kneph-Ra. So Sebek, the crocodile, called also Seb, the father of the gods, became in due time Sebek-Ra. Chem, the god of generation, had his name from Chemi. He is in form a mummy, with his right arm raised, and a whip in his hand. He also was sometimes joined to the gods of Thebes, and formed a trinity in unity under the name of Amun-Ra-Chem. At Heliopolis and the neighbourhood, the name of the god of the sun was pronounced Athom, and he gave his name to the city of Thoum. At Mendes in the Delta, and at Hermanthis near Thebes, the sun was called Mando, and became Manda-Ra. Pasht, goddess of chastity, was worshipped chiefly at Bubastes, and has a cat's head. Athor was the goddess of love and beauty; at Momemphis, near Sais, she was worshipped under the form of a cow; at Sais was worshipped Neith, the queen of heaven, the mother of the gods. She wears sometimes the crown of Lower Egypt. Thoth, the god of letters, has the head of an ibis, and holds a pen in his hand. He was one of the gods of the moon, and lord of Hermopolis.

The myths of Gebal, of Tyre, of Sidon, and of the Canaanites generally, are all mixed up with each other. But they all acknowledged Baal as the sun-god; and Ashtaroth or Astarte was known as Pene-Baal, the face of Baal, also Baltis Baal.

The ancient Phœnicians and Egyptians used to paint the sun of the figure of a man sitting on a lotus or nenofar, which lives in the water without any communication with the clay, resting on itself, equally distinct from matter, swimming in empty space.

Porphyry says the sun was also represented by a man in a ship resting on a crocodile, an amphibious reptile, emblem of air and water.

The sun was the great object of the worship of the Canaanites, chiefly as creator and generator, the source of light and life. Baal, plural Bealim, was a title meaning lord, and the equivalent of Adonai, just as Melech, Moloch, and Malik means king. The Canaanitish gods had this title prefixed, as Baal Berith, the covenant god of Shechem; Baal Peor, the god of the mountains of Moab; Baal Zebub, the god of flies, etc. etc. (Numbers xxv. 3; 2 Kings i. 2; and Hosea ii. 16). It was also given as a man's name, and David's son was Baal Yada. The sun-god was also known as El, god, and Elyon, the most high god.

Amongst the Accadians of Babylon, the people of

Sipparah, and the Canaanites, children were sacrificed to Baal, to king Anu, and king Adar (Anammelech, and Adrammelech); but Hosea (ii. 16) declared Baali abolished as the god of the Israelites. Duzu or Tammuz was the youthful sun-god of the Accadians of Chaldaea; he was the bridegroom of the goddess Istar. He had the title of Adonai. Adoni-Tammuz was the Greek Adonis, and many legends and other names were applied to him.

In Canaan there were only two prominent goddesses, viz. Ashtoreth of the Northern Canaanites, and Ashera of the Southern Canaanites. Ashera is an Assyrian word, denoting the rich fecundity of nature. Ashtoreth is Istar, goddess of love and war, patroness of the moon and the planet Venus.

The temple of Astarte or Ashtoreth, the Phœnician Aphrodite, was at Paphos, on the Gulgai or Gulgai Hill. A stone column of cone-like shape was the only symbol inside the shrine, and they believed that it had fallen from heaven, as had the aerolite before which sacrifices were offered in the great temple of the Asiatic Artemis at Ephesus. The Egyptians called them Kefa or Kephene, the palm-land people. Keft was Phœnicia, and Keftur was the Caphtor of the Old Testament, but Canaan was the title they gave to their own country.

The Natchez of N. America worshipped the sun with singular honours, and preserved with the same reverence the sacred fires.

In Northern Asia the Samoyedes are said to have worshipped the sun and moon.

Apollonius, in his visit to Upper India, describes the magnificent temple of the sun at Taxila.

The great Getæ of Central Asia deemed it right to offer the horse to the sun, as the swiftest of created to the swiftest of uncreated beings. Colonel Tod tells us that Bal-nath was the sun-god of ancient India, and the Bul-dan was the gift of the bull to the sun. The white elephant and the white horse in the ancient sun-worship are emblems of the sun. In a legend as to Sakya's birth, a white elephant entered the womb of his mother, Maya Devi.

In the Vedas the sun is called the eye of Varuna; with the Persians the sun was the eye of Ormuzd; it was the Demiurge of the Egyptians, the Baal of the Babylonians, Assyrians, and Phœnicians, the Zeus of the Greeks, and the Wuotin or Odin of the Teutonic races. All Hindus still worship the sun, and the Parsec race turn to the sun as an emblem of light.

In Central India, at the present day, the worship of the sun as the supreme deity is the foundation of the religion of the Ho and Oraon, as well as of the Munda. By the former he is invoked as Dharni, the Holy One. He is the Creator and the Preserver, and with reference to his purity, white animals are offered to him by his votaries. The sun and moon are both regarded as deities by the Khond, though no ceremonial worship is addressed to them.

The sun is worshipped by the Kharria of Ohutia Nagpur, under the name of Bero. Every head of a family should during his lifetime make five sacrifices to it in succession,—fowls, a pig, a white goat, a ram, and a buffalo. The Munda worship the sun as Sing Bonga, to whom they pray and offer sacrifices as to a beneficent creator.

The Bura-Deo of the Gonds is also a sun-god. There is a sun temple at Baroda, dedicated to Surya Naraiana.

At Sutrapada, in Kattyawar, between the town and beach, is a singularly fashioned temple of the sun, with an image of Rina-Devi; near it is a Surya-Kunda, and another dedicated to a rishi; also a castle on the way to Pattan.

The earliest objects of adoration in Rajputana were the sun and moon, whose names designate the two grand races, Surya or Solar dynasty, and Chandra or Indu or Lunar race. Budha, son of Indu, married Ella, a grandchild of Surya, from which union sprang the Indu race. They deified their ancestor Budha, who continued to be the chief object of adoration until Krishna, hence the worship of Bal-nath and Budha were coeval. That the nomadic tribes of Arabia, as well as those of Tartary and India, adored the same objects, we learn from the earliest writers; and Job, the probable contemporary of Hasti, the founder of the first capital of the Yadu on the Ganges, boasts in the midst of his griefs that he had always remained uncorrupted by the Sabeism which surrounded him: 'If I beheld the sun when it shined, or the moon walking in brightness, and my mouth has kissed my hand, this also were an iniquity to be punished by the judge, for I should have denied the God that is above.' That there were many Hindus who, professing a pure monotheism like Job, never kissed the hand either to Surya or his herald Budha, we may easily credit from the sublimity of the notions of the 'One God,' expressed both by the ancients and moderns, by poets and by princes of both races, but more especially by the sons of Budha, who for ages bowed not before graven images, and deemed it impious to raise a temple to them.

At Udaipur the sun has universal precedence; his portal (Surya-pol) is at the chief entrance to the city; his name gives dignity to the chief apartment or hall (Surya-mahal) of the palace; and from the balcony of the sun (Surya-gokra) the descendant of Rama shows himself in the dark monsoon as the sun's representative. A huge painted sun of gypsum in high relief, with gilded rays, adorns the hall of audience, and in front of it is the throne. In addition to these, the sacred standard bears his image, as does that Scythic part of the regalia called the changi, a disc of black felt or ostrich feathers, with a plate of gold to represent the sun in its centre, borne upon a pole. The royal parasol is termed kirma, in allusion to its shape, like a ray (carina) of the orb. The most revered text of the Vedas of the Hindus, the Gayatri, is imparted to a Brahman youth on his initiation, and is an invocation to the sun. By the Aryan Hindus the sun was also styled Savitar, the progenitor.

The ancient Aryans worshipped the sun as Mitra, or the living, which the modern Parsecs still do as Mihr, and name their children after it, a Mihr Bi being in almost every household. The turning towards the sun is noticed in Ezekiel viii. 16. The Parsec looks towards the sun in prayer; the Buddhist and the Hindu, when perambulating their temples, circle from right to left as the sun's circuit. The Ansariyah race in Syria are sun-worshippers.—*Bunsen*, iii. pp. 525, 561, iv. pp. 269, 318, 325, 687, v. p. 127; *Sharpe's*

Egypt, i. p. 98; *Chatfield's Hindustan*, p. 191; *Lubbock's Civilisation*, p. 215; *Tod*.

SUNAB-DEO. The bhandarda of the Ram Talao or Sunab-Deo in the Satpura had been destroyed by a Muhammadan agent from the Nimbalkar jaghirdar, who took some of the bricks to make a step well in his own village; but guinea-worm attacking the villagers, the people believed it to be a curse, and deserted the village. About 1830, the old Pahlki family induced the people to return, and used the bricks to rebuild the village choultry, but fever and dysentery appeared, and the site was a second time abandoned. And about 1870 the Assistant-Collector again wished to utilize the bricks, but the people steadfastly refused, and explained to him that 'the bricks are the property of Ram, and cannot be touched with impunity.'

SUNAHSEPHAS, a Brahman's son, destined to be a victim to Varuna in the place of Harischandra. He was already bound as the sacrifice, when he remonstrated, and was freed. The story is told in the Aitarya Brahmana, and seems to embody some change of ritual from that of the Vedic times.

SUNDA, in the Eastern Archipelago, forms with Borneo and other islands a group, of which Borneo is the chief. Sunda Strait has two channels which lead into it from the westward, the small channel between the west end of Java and Princes Island, and the great channel to the northward of the island, betwixt it and the south coast of Sumatra, which occupies upwards of a degree of longitude, indented by two large bays, the shores of which are fronted by numerous islands and rocks. The Sunda people are shorter, stouter, harder, and more active than the inhabitants of the coast and eastern districts. In some respects they resemble the Madurese.—*Raffles' Hist. of Java*, i. p. 59.

SUNDARA-MISRA, A.D. 1599, wrote the *Abhi-Rama-Mavi*, a drama in seven acts on the history of Rama.—*Down*.

SUNDAY. In most countries the first day of the week is named after the sun. Amongst the Hindus called Ravivara, from Ravi, the sun, Vara, a day, also Irida, from Iru, the sun. The Muhammadans in India call it Itewar or Aitewar, from the Sanskrit Aditya, a name of the sun. The complete days of the week are—

Sunday,	Ravivara,	Ravi or the Sun.
Monday,	Somavara,	Soma or the Moon.
Tuesday,	Mangalavara,	Mangala or Mars.
Wednesday,	Budhavara,	Budha or Mercury.
Thursday,	Vrihaspativara,	Vrihaspati (Jupiter).
Friday,	Shukravara,	Shukra (Venus).
Saturday,	Sanivara,	Sani (Saturn).

SUNDYYA or Sandhya, **SANSK.**, in Hinduism, is the recital of prayers accompanied by certain modra or gesticulations, and their performance by Hindus.

SUNDERBANS, said to be derived from Sundari vana, a forest of sundari trees, is a name given to the islands and swamps in the delta of the Ganges, extending for 60 miles from the zamindari and pargana lands in the north to the Bay of Bengal in the south, lat. 21° 30' 40" and 22° 37' 30" N., and from the Hoogly in the west to the Megna in the east, long. 88° 4' 30" to 91° 14' E., a varying breadth of 30 to 81 miles, and along the coast in length 165 miles, about 7632 square miles.

The northern portion of the delta is highly cultivated and densely populated, supporting 420 souls upon each square mile, or nearly 5,000,000 inhabitants; the southern portion is occupied by extensive swamps and dense forests, and their few inhabitants live in boats, not daring to venture on shore by day on account of the numerous tigers, nor by night on account of the miasma. The name has also been supposed to be derived from the Chandra Bhandra tribe, employed, like the Molangi, on the salt manufacture there; others derive the term from the two Bengali words, sundar, ban, great or beautiful forest. The breadth of the delta from Chittagong to the mouth of the Hoogly is 260 miles, divided longitudinally by the Megna; all to the west of that river presents a luxuriant vegetation, while to the east is a bare muddy expanse, with no trees or shrubs but what are planted. On the west coast the tides rise 12 or 13 feet; on the east, to 40 or 80. On the west, the water is salt enough for mangroves to grow for 50 miles up the Hoogly; on the east, the sea-coast is too fresh for that plant for 10 miles south of Chittagong. On the west, 50 inches is the Cuttack fall of rain; on the east, 90 to 120 at Noacolly and Chittagong, and 200 at Arakan. The east coast is annually visited by earthquakes, which are rare on the west. And lastly, the majority of the great trees and shrubs carried down from the Cuttack and Orissa forests, and deposited on the west coast of the delta, are not only different in species, but in natural order, from those that the Penny and Chittagong rivers bring down from the jungle. Mariners when approaching the Sandheads, having no land in sight, not even the height of a span, to guide them, are obliged to trust entirely to their lead to inform them of their position. The sand that is brought down by the rivers hardens under the surface of the sea into a concrete, nearly as hard as rock, to touch upon which is fatal to any craft; but as the waters descending the rivers cut a subaqueous channel through the sand, the lead informs the pilot at once whether he is on a bank or in a channel. Government pilots are always cruising a few miles from the land, and at night continually burn blue lights to inform ships of their position. The segregation of the sand from the mud is as follows: The freshes or heavy rains bring down from up-country vast quantities of sand and earth, calculated at 40,000 million cubic feet, or nearly one-third of a cubic mile, rendering the waters of all the rivers opaque or of a dull yellow colour. This body of water rushing along with great impetuosity reaches the sea; a contest immediately takes place between the rushing water and the advancing tides; the effect is to cause the heavier sand to subside, which is done on either side of the river channels, forming the Sandheads; the finer particles of mud are driven back or up the rivers, and deposited upon the ten thousand islands over which the tide sweeps; but as all the finer particles of sand and mud are not thus thrust back upon the Sunderbans, some portion of the alluvium is carried out to sea for forty, fifty, and even for sixty miles, where, silently and slowly, it finds its way to the bottom of the ocean, forming the soft, impalpable purple mud so well known to pilots and others approaching the shores of India. At sixty miles from the

Sunderbans the ocean is free from any appearance of natant impurities, but nevertheless a certain amount of alluvial matter is subsiding to the bottom of the sea that number of miles from the land, which probably only commence to sink at forty miles from the Sunderbans. On the eastern flank of the delta, by the deposition of soil driven up by the waves, the mainland of Noucolly is gradually extending seawards, and advanced four miles within 23 years. The elevation of the surface of the land is caused by the overwhelming tides and south-west hurricanes in May and October; these extend thirty miles north and south of Chittagong, and carry the waters of the Megna and Fenny back over the land, in a series of tremendous waves, that cover islands of many hundred acres, and roll three miles on to the mainland. On these occasions the average earthy deposit of silt, separated by micaceous sand, is an eighth of an inch for every tide; but in October 1848 these tides covered Sundeeep Island, deposited six inches on its level surface, and filled ditches several feet deep. These deposits become baked by a tropical sun, and resist to a considerable degree denudation by rain. Whether any further rise is caused by elevation from below is doubtful; there is no direct evidence of it, though slight earthquakes annually occur; and even when they have not been felt, the water of tanks has been seen to oscillate for three-quarters of an hour without intermission, from no discernible cause. The Sunderbans have no defence whatever to seaward, not even an inch in height; every spring-tide and every cyclone-wave dashes its waters over the land, deluging the country with waves, the impetuosity and volume of which are unknown and unheard of in Europe; waves 30, 40, and even 60 feet in height have been known to rise in the Bay of Bengal, to dash over the highest trees, and to deluge the whole country for miles inland. The Sunderbans in their present state are exposed to the fury of the tropical hurricanes that arise in the Bay of Bengal, and their unhealthiness is great, from the stagnated air and corrupting vegetable deposits; but should this tract ever share in the upheaval that is now going on near Arakan and on the Tenasserim coast, rich would be the soil that would be brought under the plough, and great would be the population that would be found to occupy the seaboard tract. Until that time arrives, much of the Sunderban tract can but remain waste, an inaccessible and an impregnable defence to India towards the sea. The remains of temples, mosques, and other buildings, both Hindu and Muhammadan, prove that the country has not only been once populated, but had made great advancement in civilisation. Maharaja Pratadya built a magnificent city in the Twenty-four Pargana portion of the Sunderbans. He made tributary all the princes of Bengal, Behar, Orissa, and Assam, overthrew Akbar's army on the shores of the Mutlah, but finally ended his days a captive in the Moghul capital. Storm-waves have devastated the Sunderbans, and the ravages of Mugs and Portuguese buccanniers completed the desolation. Mr. Long has stated that, when in Paris in 1848, M. Jomard, of the Bibliotheque Royale, showed him a Portuguese map of India more than two centuries old, in which the Sunderbans was marked off as

cultivated land with five cities therein. This was confirmed by a map in De Barros' Da Asia, a standard Portuguese history of India.

The principal arms of the sea, proceeding from west to east, are the Hoogly, Sattarmukhi, Jamira, Matla, Bangaduni, Guasba, Raimangal, Malancha, Bara Panga, Marjata or Kaga, Bangara, Horinghata or Buleswar, Rah-nabad channel, and the Megna river.

Amongst the calamities that overtake the Sunderbans are great inundations caused by cyclones or hurricanes. About 1584, the tract lying between the Horinghata and the Ganges, known as the Backerganj or Burrisal district, was swept by an inundation, succeeded immediately afterwards by an incursion of Portuguese and Mug pirates. In June 1622 this same tract was again inundated, 10,000 inhabitants perishing, and many houses and property destroyed. In A.D. 1737 happened a great Calcutta storm. In 1736 A.D. the river Megna rose six feet above its usual level at Lakhipur. In A.D. 1833 Saugor Island was submerged 10 feet; the whole of the population, between 3000 and 4000 souls, together with some of the European superintendents, perished; at Kedgerce, a building 18 feet high was completely submerged. The *Duke of York* East Indiaman was thrown high and dry in the rice-fields near Pultah in the Hoogly; in A.D. 1848 the island of Sundeeep was submerged; and in 1876 a storm-wave overwhelmed a great portion of the delta, and destroyed about 25,000 souls.—*Calcutta Review*, No. lxi. p. 24, March 1859; *Hooker's Him. Jour.*—See Cyclone.

SUNDIVA, an island of the Sunderbans, held for about half a century by the Portuguese Sebastian Gonzales and Fra Joan.

SUNDRAS or Sundrus, resin of the *Vateria Indica*, called by the various names of East Indian copal, Indian annie, and Piney dammer; in Hindi, according to the *Makhsan-ul-adwiyah*, Chanderns, and Kahruba among the common folk.—*Pearce*.

SUNDRI, in musical instruments a fret.

SUNDUK, a small principality, in lat. 15° 5' N., and long. 76° 34' E., 24 miles west of Bellary; level of the nalah is 1900 feet. It is in the centre of the Bellary district, and is an independent state of 140 square miles, of which more than a third is hill territory. Its population is 14,000, and revenue Rs. 45,000. The ruler is one of the Ghorpara Mahrattas.—*Cull*.

SUN-FLOWER is the name given to species of the *Helianthus* genus of plants, of which *H. annuus*, the annual sun-flower, is cultivated in gardens; *H. Indicus*, *Linn.*, is probably only a variety of *H. annuus*; *H. multiflorus* is the many-flowered sun-flower; *H. tuberosus*, the Jerusalem artichoke, the tubers of which form a good substitute for potatoes. The stem of *H. thurifer* yields a resinous matter. The botanical name of this genus is from *ήλιος*, the sun, and *ανθος*, a flower. *H. annuus*, the Tournesol, Fr., Girasole, It., is cultivated in India for its seeds and the oil they yield, a pale amber-coloured oil, free of smell, and sweet to the taste. It is obtained from *H. annuus* and *H. perennis*. Sun-flower seeds are used to fatten poultry, pheasants, and partridges; they are said to increase the number of eggs. The leaves are given to cattle.

SUNGA, a dynasty which ruled over India

112 years, after the Maurya sovereigns, from B.C. 188 to 76, the first of whom, Pushpamitra, put his master, the last of the Maurya, to death.

Pushpamitra, . . .	B.C. 188	Bhagavata, . . .	p.c. 112
Agnimitra, . . .	152	Devabhuti, . . .	83
Suycshtha, . . .	144	Kanva dynasty 45 years—	
Vasumitra, . . .	137	Vasudeva, . . .	B.C. 76
Budraka or Ardraka, . . .	129	Bhumimitra, . . .	67
Pulindaka, . . .	127	Narayana, . . .	53
Ghoshavasu, . . .	124	Susarman, . . .	41
Vajramitra, . . .	121	Susarman died, . . .	31

—*Ferguson*, pp. 19, 716.

SUNGA-BADI, an atheistical sect among the Hindus.

SUNG-DIRAN. **HIND**. Impure and weak nitromuriatic acid, made by attar or druggists by mixing equal parts of alum, nitre, and salt with a little water in an earthen pot (gurra), and distilling; an acid fluid comes over that is applied to cure herpetic eruptions.—*Genl. Med. Top.* p. 152.

SUNG-I. **CHIN**. A substance resembling tar, used in China in skin diseases.

SUNGROOR, the ancient Sringara, a town on the left bank of the Ganges, and on the frontier of Kosala and the Bhil country. In ancient times the surrounding country was inhabited by Nishadas or wild tribes, and Guha, the friend of Rama, was their chief.—*Douson*.

SUNG-YAN HILLS border on Foh-kien, in the district of Ping-yang, Wan-chau prefecture, and in close proximity to Peh-kwan harbour, lat. 27° 9' 10" N., and long. 120° 32' 6" E. Alum-making establishments occupy about a mile of the side of a lofty hill, adjacent to the quarries, from which alum-stone crops out. The stones are thrown into a fire of brushwood, where they burn with a slight lambent flame, and as they crack the fragments are raked out, broken into small pieces, and macerated in vats. Subsequently the disintegrated mineral is thrown with water into a vessel having an iron bottom and sides of wood, and boiled for a short time. The lixivium is then poured into large reservoirs, where it crystallizes into a solid mass. Blocks of alum weighing about fifty cetties each are hewn out of the reservoir and carried in this state in bamboo frames, one on each end of a porter's pole, to the place of shipment, where it is broken into fragments. When not designed for immediate exportation, the blocks are stored away for drying. Granitic and porphyritic rocks abound in the vicinity, and some parts of the district produce iron and silver. According to the Wan-chau topography, the working of silver was discontinued in the reign of Wan-lih (1615), in consequence of imperial prohibition. This part of the coast has recently become the seat of extensive poppy cultivation.

SUNG-YUN, a Buddhist Chinese pilgrim, who visited India A.D. 502.

SUNJOGATA, daughter of Jye-chand, a Rahtor Rajput, the last Hindu king of Kanouj. Her father, Jye-chand, celebrated the last Rajshahi in India. He did this to soothe his vanity, which had been mortified by his rival Prithi, a Chauhan Rajput, assuming empire by performing the sacrifice of the Aswa Medha. At the Rajshahi, Sunjogata was led forward to select her husband from the assembled princes; but she threw the Bar-mala, marriage garland, over the neck of the gold effigy of the absent Prithi-raj. Prithi-raj hearing of this, he, with the elite of his warriors,

in A.D. 1175, carried her off from Kanouj in open day. There was a desperate running fight for five days all the way to Dehli, Prithi-raj losing the best of his warriors, but he kept his prize and gained immortal renown. For a few years they lived happily together, but on the invasion of Muhammad Gori she urged him to battle. As he left she exclaimed, 'I shall never more see him in Yoginipur (Dehli), but in the region of Swarga;' and her prediction was verified, for he was taken captive and slain (A.D. 1193). She then mounted the funeral pyre, and this is the first authenticated record of sati in India.—*Cal. Rev.*

SUNKISA is generally recognised amongst the learned natives of India to be the site of the Sunkasya of the Ramayana. Cunningham thinks that Sunkisa was destroyed in the wars between Prithi-raj and Jye-chand; but there seems reason to conclude that the town must have belonged to the latter when it was captured, for it is familiarly known as one of the gates of Kanouj. The ruins of Sunkisa (not called now Sankassa) can enter into no comparison with those of Kanouj, even if we include the ancient k'hira of Surace Uquth. It is stated that the worship of the identical Naga mentioned by Fa Hian is still annually performed there; but the mound where this worship takes place is nothing more than the common heap of bricks, or earth, which we see in every village, erected for worship during the Nag-Panchami.

SUNN. BENG., HIND.		Crotalaria juncea, LAT.
Chore sunn, . . .	BENG.	Tung, . . . MAHR.
Moeta pat, . . .	"	Wucko nar, . . . MALEAL.
Brown hemp, . . .	ENG.	Sann, . . . SANSK.
Hemp, Sunn hemp, . . .	"	Kenma, . . . SINGH.
Koukani hemp, . . .	"	Janapa, Shanapa-nar, TAM.
Salsette hemp, . . .	"	Vuckoo-nar, . . .
Bombay hemp, . . .	"	Janamoo, . . . TEL.

Sunn fibre is an article of extensive export. The plant is largely grown all over India for the manufacture of rope, string, and gunny bags. Dr. Wight gave the following as the results of his experiments of the strength of fibres:—

Coir, . . .	224 lbs.
Pooley Mungi (<i>Hibiscus cannabinus</i>), . . .	200 "
Marul (<i>Sesuviera Zeylanica</i>), . . .	316 "
Cotton (<i>Gossypium herbaceum</i>), . . .	316 "
Cutthalay nar (<i>Agave Americana</i>), . . .	362 "
Janapa (<i>Crotalaria juncea</i>), Sunn, Hindi, . . .	407 "
Yereum (<i>Calotropis gigantea</i>), . . .	552 "

It is equal to Petersburg hemp for many purposes, and when well prepared will bear comparison with flax. In February and March, soon after the flowers drop, and before the seed is ripe, it is plucked up by the roots; the stems, which are about five feet long, are tied in bundles, and steeped in water, weighted with stones. A few days thereafter, they are beaten, which detaches the integument and coarse cellular tissue, after which they are well washed in repeated waters, and the individual fibres picked out, free of the vegetable mucous and other impurities. It is then to be well beaten in water, to free it from impurities, wrung, and hung over bamboo frames to dry.

It requires but comparatively little tillage, and not much after-tending. The plants, when sown and soil agree, attain to a height of 8 to 9 feet. The hemp is bought in the bazar about 7 lbs. per shilling, and rope made of it at 5 lbs. weight for a shilling. Paper is made from this article.—

Cal. Ec. 1862; *Mod. Ec.* J. R.

SUNNAH, also *Sanat*. **ARAB.** The traditions of Mahomed; a recital containing a sentence or a declaration of Mahomed regarding some religious question, either moral, ceremonial, or theological; the traditional laws of Muhammadanism, based on the sayings and doings of Mahomed. The Sunni sect regard them as of scarcely inferior authority to the text of the Koran, established by usage and the law of custom; they are not recognised by the Shiah sect. The fathers of tradition are styled *Shaikh*. The traditions began to be gathered about forty years after Mahomed's death. Abu Hooraira (A.H. 58), himself a companion of Mahomed, collected from the lips of eye-witnesses, or of those who had heard, no fewer than 3500 traditions regarding Mahomed. The traditions include predictions and prophecies, which Sprenger considers were invented to oppose Christians; also stories of genii, idols, and soothsayers, invented for the heathen Arabs; and, for the Persians, announcements as to Chosroes and the east. The Sunnah commands are optional, whilst the *Farz* is a divine command, but usually applied to the five indispensable obligations of purification, prayer, almsgiving, fasting, and pilgrimage.

The Sunni sect of Muhammadans regard the Sunnah (Sunnat) or legendary account of the actions and traditions of Mahomed as of equal value to the Koran. The Muhammadan religionists are of two great sects, the Sunni and Shiah, the former being in India, Turkestan, Turkey, and Arabia, while the Shiah are most numerous in Persia. The Sunni hold, amongst other points, the succession to the khalifat to have followed in the line of Mahomed, Abubakr, Umar, Usman, and Ali; the Shiah sect, on the other hand, maintaining Ali to have, and by right, succeeded his cousin and father-in-law Mahomed. There are other points on which their sectarian differences turn, but small numbers of the Shiah religionists, in several parts of Asia as in the west of India, believe in incarnations of Ali, and of these the *Jamali* sect may be instanced. The Muhammadans of India, of these two great religious sects, worship apart; but amongst both sects are to be found, mixed together, the people of the various races, Syud, Shaikh, Persian, Indian, Moghul, Pathan, into which the Muhammadans are found arranged, and, as in the families of some Christian countries, the sons will be found as Sunni and the daughters Shiah. The Sunni are occasionally styled *Char-yari*, or four friends, as recognising Abubakr, Umar, Usman, and Ali to have been the four khalifs. The Shiah are styled the *Teen-yari*, or three friends. Amongst the Sunni in the south of India the *Mahartram* is a period of extravagant amusement, in which many non-Aryan and Aryan Hindu races join. The Sunni, by far the majority, at this period grossly outrage the grief of the Shiah sect, and scandalize the learned and devout; and many of the mummors or *Jalali* are of the Pariah, Dher, and Mahratta races.—*Wilson's Gloss.*

SUNN-BHANG is the fibre of *Cannabis sativa*, common hemp.

SUNRI, a title which includes the Kalwar tribe. The Sunni, though deemed impure from their occupation, frequently style themselves *Sudras*, especially those who have adopted agriculture as a pursuit.—*Cal. Rev.* No. 110,

SUNTARAK belonged to a Brahman family of Tirunavalur. While a child, he is said to have been adopted by king Narasingha Muniyar. On the day fixed for his marriage, he broke off the engagement, and as an ascetic went about singing hymns in honour of the Saiva temples. With Appar and Sampantar, he was a zealous champion of Saivism. A collection of hymns attributed to him has been printed.

SUNYASI, **SANSK.**, from *Sang*, prep., and *Nyasa*, to renounce, a Hindu devotee, some of whom besmear their faces with ashes. The Jews, as an act of mourning, covered themselves with ashes, and the Sunyasi do it as an act of mortification. Persons who seek concealment often assume, for a time, the appearance of Sunyasi.

SUPA, also *Supli*. **HIND.** A winnowing sieve. It is worshipped by the Irular races of Southern India.

SUPERSTITIONS. Amongst Hindus the left side is the lucky side in a woman, the right in a man. The purport of the palpitations of the eyes, or throbbing of the eyeballs, is fancied, and seems to have been similarly understood by the Greeks. The powder of white mustard is applied to the top of the head and forehead and other parts of a new-born child as a protection against evil spirits. A mixture of the same with oil and rice is scattered about to every quarter upon the commencement of a sacrifice, to keep off ghosts and fiends. Hindus stain a new cloth with turmeric to keep off demons and disease. Amongst the avenging scourges sent direct from the gods, the Singhalcees regard both the ravages of the leopard and the visitation of the small-pox. The latter they call '*maha ledda*,' the great sickness; they look upon it as a special manifestation of Devi; and the attraction of the cheetas to the bed of the sufferer they attribute to the same displeasure of the gods. A few years ago, the capwa, or demon priest of a '*dewale*,' at Oggalbadda, a village near Calcutta, when suffering under small-pox, was devoured by a cheeta, and his fate was regarded by those of an opposite faith as a special judgment from heaven. Such is the awe inspired by this belief in connection with the small-pox, that a person afflicted with it is always approached as one in immediate communication with the deity; his attendants address him as '*my lord*' and '*your lordship*,' and exhaust on him the whole series of honorific epithets in which their language abounds for approaching personages of the most exalted rank. At evening and morning, a lamp is lighted before him, and invoked with prayers to protect his family from the dire calamity which has befallen himself. And after his recovery, his former associates refrain from communication with him until a ceremony shall have been performed by the capwa, called *awasara-pandema*, or '*the offering of lights for permission*,' the object of which is to entreat permission of the deity to regard him as freed from the divine displeasure, with liberty to his friends to renew their intercourse as before. With the Burmese, if a hen lay an egg upon a cloth, its owner will lose money; to see muth-rooms at the beginning of a journey is a fortunate sign; a snake crossing the path denotes delay; if a dog carry any unclean thing into its master's house, the man will become rich. Auguries are drawn from the flight and numbers of birds, from the barking of dogs, the flight of bees, and

in many other ways.—*Hind. Theat.* ii. pp. 15, 113 ; *Tennent's Ceylon*, p. 28.

SUPREME COURT, a court of judicature of the highest in rank in India. During the E. I. Company's rule, there was a court of first instance and of appeal. Beneath it was the Sadr Adawlat Court. On the abolition of the E. I. Company, the Supreme Courts of Calcutta, Madras, and Bombay were amalgamated with the courts of Sadr Adawlat under three Presidencies, and the united body designated the Supreme Court of Judicature.

SUR, a Sind grass, perhaps *Arundo kurka* ; its flower-stalks are beaten into firm fibres called Moonyah, from which string or twine is fabricated.

SUR, a tone in music ; a melody, a tune ; a bass or drone to the shuhnae.

SUR (Soor), a Muhammadan dynasty who ruled at Dehli during the 15 years of Humayun's displacement, A.D. 1540–1557.

SURA. ARAB. A chapter of the Koran. The scattered Sura were collected by Zeid, and Europeans call these the Koran. Muhammadans call it the Word of God, Kalam Allah, also Koran-i-Sharif, the holy Koran, also Furhan.

SURA, chieftain of the Yadava, father of Vasudeva and Kunti.

SURA, a tyrannical giant, slain by Subhramanya.

SURABHI, in Hindu legend, a cow obtained as one of the fourteen products from churning the ocean.

... 'And first
Out of the waters rose the sacred cow,
God-shaped Surabhi ; eternal fountain
Of milk and offerings of butter.' ...

Amongst Hindus, at marriage, part of the ceremony consists in the donation of a milch cow. The ceremony is attended by many appropriate ceremonies, finishing with prayers, the acceptor holding during the recital the sacred animal by the tail. The boon-granting cow Surabhi, and her descendants, are much revered by all classes of Hindus. It is common for Brahmans and others to feed a cow before they take their own breakfast, ejaculating as they present their food, 'Daughter of Surabhi, framed of five elements, suspicious, pure, holy, sprung from the sun, accept this food of me ; salutation unto thee !' Or if he conduct the kine to grass, 'May cows, who are mothers of the three worlds and daughters of Surabhi, and who are beneficent, pure, and holy, accept the food given by me.' In marriage ceremonies, the hospitable rites are conducted by letting loose a cow at the intercession of the guest ; a barber, who attends for that purpose, exclaims, 'The cow ! the cow !' Upon which the guest pronounces this text : 'Release the cow from the fetters of Varuna. May she subdue my foe, may she destroy the enemies of both him (the host) and me. Dismiss the cow, that she may eat the grass and drink water.' When the cow has been released, the guest thus addresses her : 'I have earnestly entreated this prudent person, saying, Kill not the innocent, harmless cow, who is mother of Rudras, daughter of Vasus, sister of Adityas, is the source of ambrosia,' etc. 'It is evident,' says Mr. Colebrooke, 'that the guest's intercessions imply a practice, now become obsolete, of slaying a cow for the purpose of hospitality.' In the *Hitopadesa*, p. 110, the earth is called Surabhi, and the learned translator (Wilkins)

notes the name to be not usually so applied, although the earth may well be called the cow of plenty.

SURABHI MANU. TEL. A tree growing in the Nagari Hills ; literally, full of milk.

SURACHARYA, SANSK., from Sura, the gods, and Acharya, a teacher.

SURAJ-ud-DOWLA succeeded Alivardi in 1756 as subahdar of Bengal. On the 18th June, instigated by the Dutch and French, he appeared before Calcutta with a large force, on which the women and children of the British residents were sent away in a ship to a place of safety. He had previously manifested aversion to the English, owing to the governor of Calcutta having refused to deliver up one of the principal officers of finance under the nawab's late uncle, the governor of Dacca, whom the nawab had resolved to plunder. After a weak defence, the Calcutta garrison capitulated, and 146 of them were placed at night in a guard-room scarcely 18 feet square, and 123 of them died before morning. Of those still alive many were delirious. The guard-room became known as the Black Hole of Calcutta. On 2d January 1757, Calcutta was retaken by a force which had been despatched from Madras under Clive and Admiral Watson, and on the 4th of February Suraj-ud-Dowla's army was surprised and defeated by Clive. Overtures were then made by the nawab, and on the 9th February 1757 a treaty was concluded, by which he agreed not to molest the Company in the enjoyment of their privileges, to permit all goods belonging to the Company to pass freely by land or water without paying any duties or fees, to restore the factories and plundered property, to permit the Company to fortify Calcutta and to establish a mint. War having broken out between France and Great Britain, Clive attacked the settlement of Chandernaggar, but Suraj-ud-Dowla furnished the French with arms and money, and was preparing to make common cause against the British. At this juncture a confederacy was formed among Suraj-ud-Dowla's chief officers to depose him. The British joined this confederacy, and concluded a treaty with Mir Jafar Ali Khan, and at the battle of Plassey, which was fought on the 23d June 1757, the power of Suraj-ud-Dowla was completely broken, and Jafar Ali was installed by Clive as subahdar of Bengal. Suraj-ud-Dowla fled from the battle-field of Plassey, on a camel, to the city of Murshidabad, which he left in disguise, and hired a boat to take him up the river to Patna. But at Rajmahal the boatmen refused to go on farther till next day, and he concealed himself in a garden, where he was recognised in the morning and delivered to his enemies, who put him to death.

SURA-LOCA, the abode of heroes, the Valhalla of the Rajput mythology, literally the sun-place.

SURASENI. With Mathura as a centre and a radius of eighty miles, describe a circle. All within it is Vrij, which was the seat of whatever was refined in Hinduism, and whose language, the Vrij-bhasha, was the purest dialect of India. Vrij is a name tantamount to the land of the Suraseni, derived from Sursen, the ancestor of Krishna, whose capital Surpuri is about fifty miles south of Mathura on the Yamuna (Jumna). The remains to this day are called Surpuri. The province of the Suraseni or Saraseni is defined by Menu, and is particularly mentioned by the historians of Alexander.

SURASHTRA, a province in Western India, now Surath or Gujerat, the same as Balabhi.

SURAT, lat. $21^{\circ} 9' N.$, long. $72^{\circ} 54' E.$, in Kandesh, a large town situated on the left bank of the river Tapti, near its mouth, a wide and pleasant stream, cooled by the fresh breezes of the Arabian Sea, 12 miles distant. It was here where the East India Company formed their first mercantile establishment. It has a pinjrapol, or hospital for animals. It was ceded on the 13th May 1800. Boats of 50 tons can come up to it. It is the chief town of a revenue district of the Bombay Presidency, to which it gives its name. The district is a broad alluvial plain, stretching between the Dang Hills and the coast of the Arabian Sea, where it begins to narrow into the Gulf of Cambay. Its population in 1881 was 107,154, mostly Hindus, with Muhammadans and Parsees and aboriginal races. The great famines of 1623, 1717, 1747, 1790, and 1803 affected this district and all Gujerat. In April 1837, 9373 houses of Surat city were burned, and later in the year it was flooded by the river rising. In 1843 and 1849, other destructive inundations took place. The Surat municipality undertook a series of protective works in 1863, and these have somewhat sufficed to secure the city against the loss of life and property; but in July 1883, 250 houses were destroyed.—*Imp. Gaz.*

SURAT-WALI HIND. Literally good-looking, a term by which the harm women of Muhammadans are designated, to distinguish them from the Shadi wives.

SURBULI. URIYA. A fast dye of a golden tinge is extracted from this plant, which grows on sandy spots along the coast south of Puri.

SURDAS, a disciple of Ramanand, was a native of Oudh, and blind. He lived during the reign of Akbar, and was appointed Amin of Sandila by Todar Mull. When he adopted an ascetic life, he delivered all the taxes he had collected to the shrine of Madan Mohan, a form of Krishna at Bindraban, and sent to the treasury a chest filled with stones, accompanying them with the following rhyme:—

‘Terah lakh Sandile upje, sab santan mile gatke,
Surdas Madan Mohan adhi rat hi satke.’

Which may thus be rendered:—

‘The saints have shared Sandile’s taxes,
Of which the total 13 lakhs is,
A fee for midnight service owing
By me, Surdas, to Madan Mohan.’

On this Todar Mull arrested him, but the emperor forgave him, and before he died he wrote 125,000 stanzas of religious hymns in the groves of Bindraban.—*Oudh*, p. 118.

SURF. Along the east coast of the Peninsula of India, the waves break as they near the shore, and necessitate the use of masulih boats and catamarans. The height of the surf and the distance from the shore at which the waves break vary with the run of the sea, modified by the wind and current. In a squally day, such as would be dangerous to catamarans or boats, the outer surf breaks at a distance of 450 feet from the shore, and during a gale of wind at 828 feet; but in such a case the swell, the breakers, and the surf merge the one into the other, and render it difficult to decide at what point the surf first breaks.

SURI. HIND. The husks or skins of pulse, masha, etc., which come off when it is split into dal.

SURINJAN. HIND. A root in appearance like the pig-nut, imported via Pali, is bitter and sweet in taste, used as an aphrodisiac.—*Gen. Med. Top.* p. 150.

SURJEE, a Hindu reformer, since the middle of the 19th century, had been urging the population on the frontier of Mewar and Gujerat to reform. He preached the worship of one God, peace, and goodwill. His followers took an oath to abstain from all crimes and offences, from spirituous liquors, and from causing death to any living thing. They bind themselves to live on the produce of the soil, and to bathe before eating. In 1874 he had upwards of 1000 disciples, and three assistant guru or teachers.—*Moral and Mat. Progress*, 1874-75.

SURKHAB or Yaklish or Kizzel Su, one of the principal streams which form the Ab-i-Panj or Upper Oxus. It rises on the Alai plateau. It enters the state of Karatagin, in which it receives many affluent, and falls into the Ab-i-Panj.

SURKHEL, the chief civil minister of the Pudukottah state.

SURMA. HIND. Antimony; black ore of antimony, a ter-sulphide. Indian Muhammadans have a belief that the finest kind of surma comes from Arabia, from the hills of Sinai or Tur, etc. Their tradition is, that when Moses was in the mount, he asked that the glory of the Almighty might be shown him; he was answered that his mortal sight could not bear the glory, but through a chink of the rock a ray of the light was allowed to fall on him, and the rock on which the ray fell became melted into antimony. Galena, lead-ore, is sold as antimony. Muhammadan men apply antimony to their eyelids, but their women use kohl or lamp-black for this purpose. Surma-dun, a small toilet-box for holding antimony powder, used as a cosmetic. Surma-i-Isfahani is glistening iron-ore, used by men for staining the eyelids. Surma-Sard, Iceland spar, found in rocks in Kabul, is extracted and broken into crystalline fragments, more or less opaque. It is employed by the natives as an astringent in ophthalmia, gonorrhoea, and other fluxes, in doses of 70 grains internally, and also externally as a local application.

SURMA RIVER is the main branch of the Barak river in Sylhet district, Assam. On its banks are Sylhet town and Sonaganj, at which warts the limestones, oranges, potatoes of the Khassya Hills are collected for transmission to Bengal. The valley of the Surma is separated from that of Manipur by a range of moderate elevation, which is continued to the southward, and separates Tiperah, Chittagong, and Arakan from the kingdom of Ava. About 70 miles up the Surma, the mountains on the north, which are east of Jaintia, rise 4000 feet high, in forested ranges like those of Sikkim. Swamps extend from the river to their base, and penetrate their valleys, which are extremely malarious; these forests are frequented by timber-cutters, who fell the jarool, *Lagerstroemia reginae*.

SUR-NAI. HIND. A musical instrument like a bagpipe.

SURNAMUKY RIVER rises in the table-land, lat. $13^{\circ} 26' N.$, and long. $79^{\circ} 11' E.$, runs N.E. to Bay of Bengal; length, 99 miles.

SURNUREA, an abbreviation of Surjuparea,

or people living in Surnar, i.e. the other side of the Surju or Gogru.

SURPUR, an ancient city, once the capital of the Yadu race. Its site is on the Jumna.

SURU-I-BALDAN, or Pictures of Countries, an ancient Persian compilation from the works of Istakhri and Ibn Haukal.—*Elliot*.

SURVEYS have been in progress in the East Indies ever since the British were there. Marine surveys from the Red Sea to the Straits of Malacca and China, including the banks and islands to the south of India, were carried out by officers of the Bombay marine, later (in 1832? 1829) designated the Indian Navy. Captains Lancaster (1691), Middleton, Keelinge (1607), Sharpey, Saris to Japan, drew up in their voyages charts and sailing directions, which were condensed into rules for the East India Navigations by the famous Captain John Davis of Limehouse, who made five voyages. Richard Hakluyt, Archdeacon of Westminster, was appointed historiographer of the East Indies in 1601. In 1616 Edward Wright was appointed to perfect the E. I. Company's charts, and in the same year, on Hakluyt's death, he was succeeded by the Reverend Samuel Purchas, who in 1625 published *Purchas*, his *Pilgrims*, giving an account of the first twenty voyages. *Purchas* died 1626. The names of some of the later surveyors can alone be given here. Captains John Ritchie, 1770 to 1785; Lacam, 1770; Huddart, 1780-1790; John McCluer, and Lieutenants Wedyborough and Court, 1790-1793; Lieut. Blair, 1777 and 1795; Captain Michael Topping, 1788 to 1794; Lieut. Warren, 1805-6.

From 1799 to 1820, Sir Home Popham, Lord Valentia, Captain Keys, Captain Court, Mr. Salt, and others were examining the Red Sea; and subsequently, the coasts of Southern Asia have been surveyed by Captains Muxfield, Knox, Lloyd, James Horsburgh, and Crawford. In the Persian Gulf (1820-1830), Captains Guy and Brucks, Ross, Owen, Haines, Kempthorne, Cogan, Pinching, Ethersay, Whitelock, Lynch, and Houghton. In the Red Sea, Captains Moresby, Elwon, the brothers John and James Young, nephews of Horsburgh, Pinching, Powell, Barker, Christopher Wellsted, Felix Jones, Gieves, Carless. Subsequently Captain Moresby, with some of these officers, and with Lieutenants Robinson, Macdonald, Riddle, surveyed the Maldives, the Chagos Archipelago, and the Seya.

From 1806 to 1834 there was a Marine Surveyor-Generalship at Calcutta, filled by Court, Daniel Ross, and Lloyd; and from 1828 to 1838, during Sir Charles Malcolm's command of the Indian navy, there were several well-equipped surveys. But from 1861 to 1871 Indian coast surveys were stopped altogether, and in the interval many original drawings, which had cost millions, were lost.

In 1820, a survey of the Persian Gulf was commenced under Captain Guy of the *Discovery*, 268 tons, with Captain Brucks as his assistant, in the brig *Psyche*. He was succeeded by Captain Brucks, who had under him Lieutenants Haines, Kempthorne, Cogan, Pinching, Ethersay, Whitelock, and Lynch, all of them men of scientific and literary attainments, with Lieut. Houghton, an accomplished draughtsman. While surveying, they suppressed piracy and the slave trade. The

survey was continued until 1830. Captain Brucks retired in 1842, and resided at and became Mayor of Exeter, where he died in 1850.

Surveys, in British India, are being conducted by the archaeological, cadastral, field, geological, marine, revenue, trigonometrical, and topographical departments, and geographical research by the aid of learned Asiatics termed pandits. Colonels Lambton, Everest, Waugh, Walker, and Thuillier have been prominent as chiefs of the Trigonometrical Survey.

The greater portion of the North-West Provinces of India has been surveyed by Government officers. The area of each village (or rather parish, to use an English term) is given in imperial acres, but the areas of the fields appertaining to each village are given in local bighas. The introduction of the acre therefore was only partial. In the surveys lately made in the Bombay Presidency, the area of each field is recorded in acres, not only in the English, but in the vernacular accounts, and the term is well known and understood among the people. In the Madras Presidency, the districts of Bellary and Cuddapah were measured field by field (as far as the land was cultivable) in acres in 1803, and Kurnool in the same way in 1842. In Salem, the records of field measurements, made about 1800, are entered both in the native terms and their equivalents in acres, and the acre is by far the best known. Colonel Thuillier pressed forward the revenue and topographical surveys for twenty years. In a period of thirty years, with but very few parties at the commencement, and only increasing very gradually, 160,000 square miles of country, an area considerably larger than the whole of the British islands, was completed and mapped by one branch of the department alone, at a cost of not more than thirty-two shillings and eightpence per mile; whilst the revenue surveys likewise yielded excellent topographical maps on a similar scale of 364,000 square miles of country, between the years 1846 and 1866, or during Colonel Thuillier's incumbency and superintendence of the operations, at a mean average cost of fifty shillings and eightpence per square mile. The combined results form the large area of 524,000 square miles, or upwards of four times that of Great Britain, executed at a total cost of Rs. 1,25,00,000, yielding a mean average rate of forty-seven shillings and threepence.—*Ann. Ind. Adm.* xii. p. 81; *Home News*; *E. I. Marine Surveys*, 1871.

SURWAMANYA and Jodimanya are revenue terms introduced into the Malabar country from the Carnatic, the former meaning grants of land on which Government takes no quit-rent, the latter being grants on which quit-rent are taken.

SURYA, the sun. In Hindu mythology, the deity of the sun is sometimes alleged to be identical with Savitri and Aditya, sometimes is called son of Dyaus, sometimes son of Kasyapa and Aditi, and sometimes fabled to be the husband, sometimes the child, of Ushas, the dawn, and sometimes the father of the Asvini twins. Amongst Hindus the sun is adored under a variety of names, as Surya, Mitra, Bhaskar, Viava, Vishnu, Carna or Kana, the last likewise an Egyptian epithet for the sun. In the centre of pictures Surya is represented standing on a lotus pedestal, and holding in each hand a richly sculptured lotus sceptre. His nighut or cap, ear-rings, dress, and ornaments

are equally rich. Before him stands, also on a pedestal, a handsomely-formed woman, Prabha or brightness, his consort or sakti. At her feet, and in the front of the pedestal, is the legless Arun, holding 'the heaven-spun reins' in one hand, and a whip in the other, guiding the seven (saptaśwa) coursers of the sun, which are represented on the socle. On each side of Surya are two attendants carrying chowries, another a sword, and the fourth a cup. At their feet are smaller figures with bows, from which they appear to have just discharged their arrows. In the background are the figures, animals, and foliage usually seen in Hindu sculptures. In other representations, Surya is pictured of a deep golden complexion, with his head encircled by golden rays of glory; sometimes with four, and in others with two arms, holding a lotus in one hand, and sometimes the chakra or wheel in another, standing or sitting on a lotus pedestal, or seated in his splendid car with one wheel, drawn by a seven-headed horse of an emerald colour, or the seven coursers green of the sun. Surya is the personification of that luminary, the orb of light and heat.

'Bright god, thou scan'st with searching ken
The doings of all busy men,
Thou stridest o'er the sky; thy rays
Create and measure out our days;
Thine eye all living things surveys.'

Sir William Jones in a hymn has endeavoured to convey the Hindu views of the sun's position amongst their other gods.

'Lord of the lotus, father! friend! and king!
Surya, thy powers I sing:—
Thy substance, Indra, with his heavenly bands,
Nor sings nor understands;
Nor e'en the Vedas thee to man explain,
Thy mystic orb trifurciform, tho' Brahma tun'd the strain.
"First, o'er blue hills appear,
With many an agate hoof,
And pasterns fring'd, seven coursers green;
Nor boasts yon arched roof,
That girds the show'ry sphere,
Such heaven-spun threads of colour'd light serene
As tinge the reins which Arun guides
Glowing with immortal grace,
Young Arun, loveliest of Vinitan race;
Though younger he, whom Madhava bestrides,
When high on eagle-plumes he rides.
But oh! what pencil of a living star
Could paint that gorgeous cur,
In which, as in an ark supremely bright,
The lord of boundless light,
Ascending calm o'er the empyrean, sails,
And with ten thousand beams his awful beauty veils!"

The mystic orb trifurciform alludes to the omnipotent and incomprehensible power represented by the triple divinity of the Hindus. The flower of the lotus is said to expand its leaves on the rising of the sun, and to close them when it sets. The Aswini Kumara, the twins of the Hindu zodiac, are called the children of Surya, from Aswini, a form of Parvati in the shape of a mare, into whose nostrils Surya breathed, and thus impregnated her with sunbeams and gave birth to the Asvini.

Surya is, by some Hindu writers, called the regent of the south-west. He presides over Aditwar, or Sunday, from Aditi, the first, and War, day. Surya has various names. In the Gaitri he is called Savitri, as the symbol of the splendour of the supreme ruler, or the creator of the universe. Prabha, or brightness, is the consort or sakti of Surya. She is also Chaya, or shade, which form she assumed in consequence of not being able to

endure the intensity of the splendour of her lord. The Sauria sect of Hindus derive their name from the radiance of their deity, Sur, bright. Surya is, in his mortal form, the progenitor of the two great Khetri tribes, the Suryavansa and Chandravansa, the descendants of which are termed the children of the Sun and Moon. Surya is believed to have descended frequently from his car in a human shape, and have left a race on earth, who are equally renowned in the Indian stories with the Heliades of Greece.

The Aswini, apparently a personification of light and moisture, as sons of the sun, also as the sun's rays, are noticed as the physicians of the gods. They are described as young and handsome, and riding on horses. Vayu or the air, and the Maruts or winds, are personified and invoked. The Maruts are depicted as roaring amongst the forests, compared to youthful warriors bearing lances on their shoulders, delighting in the soma juice like Indra, and, like him, the bestowers of benefits on their worshippers. Ushas or the dawn, the early morning, the first pale flush of light, is compared to a mother awakening her children, to a lovely maiden awakening a sleeping world, to a young married maiden, 'like a youthful bride before her husband, thou uncoverest thy bosom with a smile.' As a goddess, she is styled the (Rig Veda, i. 123, v. 2) mighty, the giver of light; from on high she beholds all things; ever youthful, ever reviving, she comes forth to the invocation. Indra, according to Bunsen (iii. 587, 8, iv. 459), is the prototype of Zeus, and was a personification of Ether; soma was offered to him in sacrifice.

In the Rig Veda, i. 115, 1, is, Surya atma jagatas tashthusa's cha, The sun is the soul of all that moves and rests. Surya, called also Savitra, Mitra, Aryaman, and other names, was a Vedic god, but continues to be worshipped down to the present day, by Hindus and Zoroastrians. The Solar race of Kshatriyas, who appear in the Itanayana, derive their origin from the sun; but, in the higher spirit, the sun is regarded as divine, as pervading all things, as the soul of the world and supporter of the universe. In a verse of the Rig Veda (iii. 62, v. 10) this idea is supposed to be indicated. It is O'm! Bhurbhuva svaha, O'm! Tatsa vit'ru varenyam. B'hargo devassya dhimahi dihyo yona ha prachodayath. O'm! earth, air, heaven. O'm! let us meditate on the supreme splendour of the divine sun. May he illuminate our minds. And, at the present day, even the most enlightened Brahmans regard this verse as an invocation to the several deities who are implored by the worshipper to aid his intellect in the apprehension and adoration of God. In connection with the sun as a Hindu deity, are the twelve Aditya, sons of Aditi, the universe. In the later Vedic age, these were identified with twelve signs of the zodiac, or the sun in its twelve successive signs.

Early objects of adoration in Rajputana were the sun and moon, whose names designate the two grand races, Surya and Chandra or Indu. Budha son of Indu married Ella, a grandchild of Surya, from which union sprang the Indu race. They deified their ancestor Budha, who continued to be the chief object of adoration until Krishna; hence the worship of Bal-nath and Budha were coeval. That the nomade tribes of Arabia, as well as those of Tartary and India, adored the

same objects, we learn from the earliest writers ; and Job, the probable contemporary of Hasti, the founder of the first capital of the Yadu on the Ganges, boasts in the midst of his griefs that he had always remained uncorrupted by the Sabeism which surrounded him : ' If I beheld the sun when it shined, or the moon walking in brightness, and my mouth has kissed my hand, this also were an iniquity to be punished by the judge, for I should have denied the God that is above.' That there were many Hindus who, professing a pure monotheism like Job, never kissed the hand either to Surya or his herald Budha, we may easily credit from the sublimity of the notions of the ' One God,' expressed both by the ancients and moderns, by poets and by princes, of both races, but more especially by the sons of Budha, who for ages bowed not before graven images, and deemed it impious to raise a temple to ' The Spirit in whose honour shrines are weak.'

Hence the Jain, the chief sect of the Buddhists, so called from adoring the spirit (Jin), were untinctured with idolatry until the apotheosis of Krishna, whose mysteries superseded the simpler worship of Budha. Nemnath (the deified Nemi) was the pontiff of Budha, and not only the contemporary of Krishna, but a Yadu, and his near relation ; and both had epithets denoting their complexion ; for Arishta, the surname of Nemi, has the same import as Sham or Krishna, ' the black,' though the latter is of a less Ethiopic hue than Nemi. It was anterior to this schism amongst the sons of Budha that the creative power was degraded under sensual forms, when the pillar rose to Baal or Surya in Syria and on the Ganges ; and the serpent, ' subtlest beast of all the field,' worshipped as the emblem of wisdom (Budha), was conjoined with the symbol of the creative power, as at the shrine of Eklinga, where the brazen serpent is wreathed round the lingam. Budha's descendants, the Indu race, preserved the ophite sign of their lineage when Krishna's followers adopted the eagle as his symbol. These, with the adorers of Surya, form the three idolatrous classes of India. Surya, or the sun, is exclusively worshipped by the Saura sect, who acknowledge no other deity ; but this sect is not numerous.

Sun-worship still prevails everywhere throughout Orissa. The sun-temple at Kanarak, nineteen miles N.W. of Jaganath or Juggurnath, looks down upon the sea. Sculptures in high relief, but of an indecent character, cover the exterior walls, and bear witness to an age when Hindu artists worked from nature. The nymphs are beautifully-shaped women in voluptuous attitudes. Each architrave has as usual the Nava-Graha, or nine Brahmanical planets, very finely sculptured in alto-relievo. Five of them are well-proportioned men with mild and pleasing countenances, crowned with high-pointed caps, and seated cross-legged on the lotus, engaged in religious meditation. The form of the planet which presides over Thursday (Vrihaspati or Jupiter) is distinguished from the others by a flowing majestic beard. Friday or Venus is a youthful woman, with a plump, well-rounded figure. Ketu, the descending node, is a Triton, whose body ends in the tail of a fish or dragon ; and Rahu, or the ascending node, a monster, all head and shoulders, with a grinning, grotesque countenance, frizzly hair, dressed like a full-blown wig, and one immense canine tooth

projecting from the upper jaw. In one hand he holds a hatchet, and in the other a fragment of the moon. At Jeypore, also in Orissa, is a figure on the wall of a temple of the sun-god, with his seven-horse chariot, and a colony of sun-worshippers continues to keep alive the sacred fire in a neighbouring grove. Throughout India, the stricter Vaishnava sectarians refrain from animal food on the first day of the week, which bears the name of Sunday, Rabi-var or Ravi-var. South of Orissa, sun-worshippers are a class of Brahmana. The highlanders on the N.W. of Orissa will not break their fast till they catch a clear view of the sun, and sun-worship still continues amongst wild races of the central plateau of India. The earnestness with which Surya is worshipped is well shown in the Suriyanamaskara Patikam, a Tamil song, which, after an invocation of Ganesa, begins with, ' O thou god, Suriya Narayana, thou art Siva, thou appearest in the vast expanse of the sky with brilliant light ; thou art the light of true wisdom ; thou art the only deity that filleth the whole universe ; thou art the true teacher, that teacheth the five-lettered mantra (namasivaya), the mysterious doctrines ; thou assumest bodily shape, thou art the soul of the whole universe, thou hast from the beginning appeared in the shape of this world and the thousand and eight worlds beyond the mundane sphere ; and thou ridest every day in a most brilliant single-wheeled chariot.' — *Tod's Rajasthan ; Tennent's Christianity in Ceylon*, p. 206 ; *Cole. Myth. Hind.* ; *Moor*, p. 253 ; *Hindu Infanticide*, p. 175 ; *Cul. Rev.*, 1868 ; *Malcolm's Central India*, ii. p. 193. See Sun-Worship.

SURYA SAVARNI, one of the 14 patriarchs who preside successively over the 14 Manwantaras of the calpa.

SURYA SIDHANTA, a learned work on Hindu astronomy of the 5th or 6th century B.C. Mr. Colebrooke thinks it contemporary with Brahma Gupta, whom he afterwards fixes at the end of the 6th century. It contains a system of trigonometry, which not only goes far beyond anything known to the Greeks, but involves theorems which were not discovered in Europe till the 16th century. It is held in veneration by all Hindu astronomers, although they acknowledge that its elements, without the assistance and use of the tikas, or commentaries, no longer furnish means for representing the true positions of the planets. Hindus allege that this book was revealed 1000 years before the beginning of the Treta-yuga (A. 3,027,101, Ante-Christum). European commentators differ vastly in opinion touching its true epoch. Mr. Bentley, however, seems to have proved, after a very profound research, that let the antiquity of the Surya sidhanta be what it may, it only came into general use in A.D. 538.—*Sala Samkalita*.

SURYA-VANSA, or Solar race, or race of the sun, was a race of Kshatriyas, descended in three lines from Ikshwaku. The Surya-vansa, as collated from the lists of Sir William Jones, Professor Wilson, Colonel Tod, and Hamilton, commenced with Marichi.

Kasyapa, a Muni, married Aditi, who was Daksha's daughter.

Vaivaswata or Surya, the sun.

Sradha Deva or Vaivaswata (the sun), king of Ayodhya.

Ikshwaku in the Treta-yuga, B.C. 3500 Jones, 2900 Tod.

Prinsep says from Ikshwaku sprang the two Solar dynasties of Ayodhya (Oudh) and Malthala (Tirhut). In the Oudh dynasty we find Harischandra, king of India, Bhagithi, who brought down the Ganges. In that of Tirhut, Swadhaja, the father of Sita, who married Rama, the last of the line of Oudh in the Dwapar-yuga or brazen age.

The third Solar line of Vesala was also descended from Sradha Deva, Valvaswata (the sun), king of Ayodhya, and father of Ikshwaku; in this line occurred Trinavindhru, father of Brabira, who married Vlavarawa Muni, and Besabiraja or Visala, who founded Vaisali (Allahabad).

Mr. Dowson says the elder branch of the Solar race, which reigned at Ayodhya, was descended from Ikshwaku through his eldest son Vikukilil; the younger dynasty, which reigned at Mithila, was descended from Nimi, another son of Ikshwaku. Amongst others of the Ayodhya line were Satyavrata, Dasaratha, Rama, Nala; and of the Mithila line were Krita, Vijaya.

Rama, king of Oudh, was the 34th in descent from Ikshwaku, son of Valvaswata Muni, the son of the sun. Ikshwaku was therefore grandson of the sun. The existing Rajput tribes of the Solar race claim descent from Lava and Kushi, the two elder sons of Rama. They are the present princes of Mewar, Jeypore, Marwar, Bikanir, and their numerous clans.—*Prinsep; Dowson.*

SURYA-VANSA. SINGH. The principal castes in Ceylon are four, viz. the Surya-Vansa, or royal race. This has two divisions, viz. Goe Vansa, cultivators, the most numerous in the island, and to it belong the nobles, chiefs, priests, and nearly all the Government servants. Nillo Makareya, or shepherds, is the second division of the Surya.

SURYA-VELOKANAM, a household ceremony of the Brahminical Hindus, in which an infant, when four months old, is taken out of doors and shown the sun.

SUS, the hog or swine genus of mammals of the family Suidæ.

Khanzir, . . . ARAB. PERG.	Dukar, . . . MAHR.
Barahin, . . . BENG. SANSK.	Babi utan, . . . MALAY.
Indian wild boar, . . . ENG.	Babi alas, Babi, . . .
Hog, . . .	Ghrishvi, . . . SANSK.
Choiras, . . . GR.	Varaha, . . .
Hazir, . . . HEB.	Walrus, . . . SINGH.
Jangli Sur, Sur, . . . HIND.	Koka, Koku, . . . TEL.
Sus scrofa, Porcus, . . . LAT.	

The wild hog occurs in many parts of Europe and in India. The males attain to a large size. It is generally believed that there is no specific difference between the wild hog of Europe and India. The adult males dwell apart from the herd. All the wild hogs in the Archipelago are small animals, compared with the wild boar of Europe, or even with that of continental India.

Sus verrucosus, so called from the fleshy excrescence on the sides of the cheeks, has a grotesque and a formidable appearance, but is in reality a timid animal. The number of them in Java is immense.

Sus barbatus. Mr. Blyth has distinguished from the hog common in India, by a specimen sent to him from Ceylon, the skull of which approaches in form to that of a species from Borneo, the *Sus barbatus* of Muller.

Babirusa of F. Cuvier takes its name from two Malay words, Babi, hog, and Rusa, a deer.

It is the *Sus babirusa* of Linnaeus, and the *B. affurus* of Lesson, and occurs in the islands of Buru or Bourou, one of the Moluccas, and in Celebes and Ternate.

Porcula sylvatica, Hodyson, the pigmy hog of the sal forests of N. India, is the Saho lancel and Chota sur of the natives of India. It confines itself to the deep recesses of primeval forest. The adult males abide constantly with the herd, and are its habitual and resolute defenders.

Of the hog in Asia, there are *Sus scrofa*, Linn., var. *S. Indicus*, *Bengalensis*, *Andamensis*, *Malayensis*, *Zeylanensis*, *Babirusa*, and *Papuensis*. *Sus leucomystax*, of Japan and Formosa.

Sus scrofa, Linn.

Sus Indicus, Jerd.

S. cristatus, Wagner.

S. vittatus, Schlegel.

Handi, Mikka, . . . CAN. Boorra Janwar, Sur, DUKH. Jevadi, . . . " Dukur, . . . MAHR.

The Indian wild hog differs considerably from the German, though not sufficiently so to constitute a species. The head of the former is longer and more pointed, and the plane of the forehead straight, while it is concave in the European. The ears of the former are small and pointed, in the latter larger and not so erect. The Indian is altogether a more active-looking animal; the German has a stronger, heavier appearance. The same differences are perceptible in the domesticated individuals of the two countries. When the wild boar of India, the *Sus Indicus*, has the rut of cultivated lands, it eats daintily. But when stinted for food, it will revel on a dead camel; and in Cutch, when pressed by want, it prowls around the villages in search of refuse.

The wild boar of India is shot and hunted with dogs by natives, but the British sportsmen in India hunt it with the horse and spear; and undoubtedly, of all the wild creatures in India, the jungle boar exacts from its pursuers the greatest care. *Sus Indicus*, the common wild boar, is supposed to be the parent of one of the two groups into which pigs are arranged. The *Sus scrofa* group or breed is known as the Chinese breed, and extends into Europe, N. Africa, and Hindustan; but in the latter country the boar of the N.W. Provinces is not higher than 36 inches, though that of Bengal attains 44 inches.

The Rollah or Neapolitan pig, the domesticated breeds of China, Cochin-China, Siam, the Andalusian, Huthgathin, the swine of S.E. Europe and Turkey, and the Swiss, are all of the *Sus Indica* group, which, it is said by a Chinese author, can be traced back for 4900 years. The Japan masked pig is the *Sus pliceps* of Gray, and has a deeply-plicated or furrowed skin. According to Dr. Kelnar, there are two species or varieties in Ceylon,—the Newera Ella boar, and the low country *S. Zeylonensis*.—*Sykes' Cat. Deck. Mam.* p. 11; *Crawford, Dict.*; *Tennent's Ceylon*, p. 59; *Horsfield's Cat.*; *Forest Ranger*; *Darwin*; *Maclellan's Voyage*.

SUSA, the modern Shush, is some farsangs S.S.W. from the town of Dizful, on the banks of the river Dizful. It contains the tomb of the prophet Daniel, and beneath the apartment containing the tomb is a vault into which (Daniel vi. 16) Daniel was cast by order of Darius. Its western wall is close to the left bank of the river Shapur or Shoner, probably the Euleus of profane writers and the Ulai (Daniel vii. 2) of Scripture.

SUSHENA, a physician in the army of Rama.

SUSI. HIND. A striped cotton fabric much used for making pajamas or loose trousers.

Sudi susi, do-kanni susi char, panj, and sat-kanni, varieties of susi, according to the number of stripes.

Sufiyana, a kind of susi.

Chaukaunia, a cotton striped fabric, a broad susi. The term kanna seems intended for khane, literally houses, or checkered.

SUSIANA. Khuzistan represents the Susiana of Strabo, as well as the Cissia of Herodotus. Towards the eastern frontiers are the ruins of Rhajoun and Kurdistan in the centre, those of Agines (probably represented by Ahwaz) towards the west. That the geography of the province was well known before the time of Herodotus, may be inferred from a passage in his works, where it is said that Cissia is watered by the river Choaspes, on which is the city of Susa, and the palace of the great king. It is added that its waters alone were thought worthy of being drunk by the monarch. The route from Bussora to the ruins of Ahwaz, in Khuzistan, the ancient Susiana, is easy. — *Mignan's Travels*.

SUSMANI, the gypsies of Persia; Susmanihia in the plural. Many gypsies were established near the castle of Wittgenstein in Sassanhausen. Possibly it derived from them its name, meaning the abode of the Sussmani?

SUSPENSION BRIDGES in Tibet are of two kinds. Vigne saw one at Dodah, composed of a strong cable stretched across the river, and firmly fixed to the rocks at either end. On this slid a wooden seat-like framework, to which were attached the ropes that pull it backwards and forwards. The other kind consists of a very thick cable of twisted birch twigs, as a rough foot-ropes, and, four feet above it, on either side, are two smaller hand-ropes by which the passenger steadies himself as he walks over. — *Vigne*, p. 199. See Jhula.

SUSRUTA, an eminent physician, supposed by some to have been Hippocrates. According to Hindus, he was son of Visvannitra, a contemporary of Rama, and was a member of a commission of eight persons sent to study medicine under Dhanwantari, raja of Benares, who recommended Susruta to abridge the Ayur Veda, and arrange it in sections. This was done by Susruta, and, next to the book written by Charaka, it is the oldest medical work in the possession of the Hindus. It is in the form of dialogues, and its sections are — Sutra-st'hana, Surgery; Nidana-st'hana, Nosology; Sarira-st'hana, Anatomy; Chikitsa-st'hana, Therapia; Kalpa-st'hana, Toxicology; Uttara-st'hana, Local ailments. His book was translated into Arabic before the end of the 8th century A.D. It has been translated into Latin by Hopler, into German by Vullers, and into English.

SUSTI, a primitive household deity, a goddess of the Hindu households, largely worshipped by the households of Hindustan.

SUSU NAGA, according to the Mahawanso, a son of a chief of Assam. During the reign of his son and successor Kala Sangkha, about a century after Sakya Muni's death, the second convocation of Buddhist priests was held.

SUTAR or carpenter, one of the five Hindu artisans. The others are—Sonar or goldsmith,

Lohar or blacksmith, Sungtrash or stone-mason, and the coppersmith. See Viswakarma.

SUTHEEA, in Bengal, an oculist. They are of the Hindu Kayasth race.

SUTHRA, ascetic disciples of the guru Nanak. They beg from house to house, singing the exploits of some famous Hindu chief, and striking together a couple of cylinders they carry in their hands. Their heads are covered with a turband made of black ribands. They reside with their disciples in the monastery of Nagar Sen, a famous Suthra, in the Autangabad district of Benares. Their bodies at death are either buried or burned. — *Sherring's Hindu Tribes*.

SUTI. HIND. Ek, do, tln, and char suti, cotton fabrics.

SUTLEJ, the most easterly of the five rivers of the Panjab. It rises among the Himalayas in Chinese territory, about lat. 30° 8' N., and long. 81° 53' E., on the slopes of the Kailas mountain, which has peaks estimated at 22,000 feet high, and near the source also of the Brahmaputra. It is said to issue from the lake Manasarovar (Manasa-Sarovara), or from another and larger lake called Ravana-hrada or Rakas-tail, which lies close to Manasarovar on the west.

Starting at an elevation of 15,200 feet high, the Sutlej first passes across the alluvial plain of Goge, and it has acquired a passage across the plain in a channel said to be 4000 feet deep, between precipitous banks of alluvial soil. Near Shipki, the Chinese frontier outpost, the Sutlej turns sharp to the south through the Himalayas. It pierces the southern chain of these great mountains through a gorge with heights of 20,000 feet on either side. At Shipki, its elevation is said to be 10,000 feet above the level of the sea. At Rampur it has fallen to about 3000 feet, and at Bilaspur, to a little over 1000 feet. After entering British territory, for the first 200 miles it runs through a wild and almost unpeopled mountain country; receives the Li or river of Spiti near Dablaug. Thenceforth the united stream runs in a south-westerly direction through Basbahir and the Simla Hill States, and, on entering the British district of Hoshiarpur, takes a sudden southward bend round the spurs of the Siwalik Hills. Debouching upon the plains near Kupari, it divides Umballa (Ambala) district from Hoshiarpur or the Jullundhur (Jalandhar) Doab from the Sirhind plateau. It next flows almost due west between Jullundhur on the north, and Umballa (Ambala), Ludhiana, and Ferozpur on the south, till it receives the Beas (Bias) at the south-western corner of Kapurthala State (lat. 31° 11' N., and long. 75° 4' E.). The united river thenceforward preserves an almost uniform south-westerly direction till its junction with the Indus.

It is considered to be the Hesudrus or Zaradrus of the Greeks and Romans, and the Hyphasis mentioned by Strabo. To its Sanskrit names, Sitloda, Satadrn, or Sutrudra, can be traced Hesudrus of Pliny, the Saranges of Arrian, and the Shetooder and Seteluj of the Ayin Akbari.

From its junction with the Beas to the confluence of the Chenab, it is called Gharra. It is navigable as far as Filur in all seasons for boats of 10 or 12 tons burden. Bilaspur, a town on the banks of the Sutlej, was swept away by a flood. The Upper Sutlej people are amiable and gentle, free of low cunning, having the appearance of a

mixed race between the Tartar and the common hill men. They are fair, well made, and strong, but are filthy and indigent. The women have a toga fastened round the waist. The Bhatti of Bhattiana, west of the Sutlej, is a tribe of handsome people, whose origin is obscure. The Bagri tribe, inhabiting the district of Bagar, between the S.W. borders of Haryana and the Sutlej, are said to have been Rajputs, but also supposed to be Jat. There is a predatory race of this nation settled in Malwa. The Sutlej at the commencement of the rains is an impetuous torrent, foaming along its narrow stony bed, confined within rocky banks, generally bare and precipitous. It preserves the same character from Kotgarh upwards; the valley in Bashahir being very narrow, the river is often not visible from the road, but the noise is always heard as it rushes over the massive boulders. Occasional recesses occur at the bends of the river, where much timber is stranded, and in the course of 120 miles there are several broad tranquil reaches, where banks of white sand and mud may be seen. The average fall has been computed by various observers (Gerard, Thomson, and Madden) at 50 feet per mile from Wangtu to Bilaspur, and 60 feet per mile from Kanain to Wangtu. In the plains, the Sutlej runs through a line of country 6 miles broad, and from 20 to 100 feet lower than the general surrounding level. This tract is called Khadir, as the high adjoining lands are called Bangur. The length of the Sutlej bridge is about a mile and a quarter, being of 58 spans, each of 110 feet.

SUTRA. SANSK. An aphorism, a precept, a brief rule; literally it means a thread; a line, a band; it is the Latin *sucre*, the German *band*, a volume; and the works so named contain in the most concise style, doctrines in grammar, metre, law, or philosophy, and form the groundwork of the whole ritual, grammatical, metrical, and philosophical literature of the Hindus.

This body of literature of India forms a connecting link between the Vedic and the later Sanskrit. The Sutra contain a concise elliptical and technical expression of all the knowledge of theology, philosophy, and language which had been attained by the Brahmans up to the Buddhist period. It ranged from B.C. 600 to 200.

The *Kalpa Sutra* relate to ritual, and were not composed earlier than the 12th or 13th century. Having special reference to the Vedas, they are called *Srauta*; the others, derived from the *Smriti* (memory), are called *Smarta*.

The *Grihya Sutra* relate to the ceremonies to be performed by the married householder for his family.

The *Samanya charika Sutra*, or *Dharma Sutra*, regulate the affairs of everyday life, and are distinguished by Max Muller from the *Grihya Sutra*, which concern general duty and behaviour, the right conduct of life.

It is chiefly to the Sutra that we have to look for the originals of the later metrical books, such as *Manu*, *Yajna-vaikya*, and the rest. Aphorisms or *Sutras* were adopted in the fourth period of the Hindu progress, about B.C. 1000, and in the *Sutras* the ceremonial prescriptions were reduced to a more compact form and to a more precise and scientific system.

In the Sanskrit language, so complete are they, and so concisely expressed, that the subjects they

treat of must have been thoroughly examined and discussed previous to their time, and all their branches and divisions properly developed. These *Sutras* have been the great standards of instruction in later times, and have formed the bases both of commentaries in which their tenets are expounded, and of other treatises in which Hindu scholars have arranged their doctrines, according to their own judgment, with new illustrations, and perhaps greater breadth of plan. Their brief aphorisms and concise style were intended to assist the memory, although they necessarily leave the meaning obscure.

The *Kalpa Sutra* digests the teaching of the Veda and of the ancient rishis (sages) regarding the performance of sacrifices and the duties of twice-born men, Brahmans, Kshatriyas, and Vaisyas. The entire *Kalpa Sutra* of *Apastamba* is divided into thirty books or sections called *Pranas*. The *Dharma Sutras*, or aphorisms on law, are contained in the twenty-eighth and twenty-ninth books. The *Sutras* of *Apastamba* are based upon the *Yajur*, or second Veda, and not later than the 3d century B.C. The *Sutras* show the development of Hindu law direct from the Vedic writings, and they form the basis of the laws of *Menu*, *Yajna-vaikya*, and the many other great writers on law whose codes are held in very high veneration, inferior only to the Veda itself. While the Veda is classed as *Sruti*, or direct revelation, the *Sastras*, or law books, are known as the *Smriti*, or 'Reminiscences' of the ancient sages.

The *Sutras* or aphorisms of *Gautama*, based upon the *Sama* or third Veda, are apparently confined to *Dharma Sutras* or legal aphorisms in twenty-eight chapters. *Apastamba* and *Gautama* are both very great authorities even with modern writers on law, and their texts are frequently quoted and commented on. Rules which were transmitted from generation to generation by oral teaching naturally assumed the briefest possible form. The *Sutra* literature is very large, and although not included in the Vedic canon, and coming somewhat later in date, it is closely connected with it both by similarity of language and subject-matter. But as it is no part of the *Sruti* or Revelation, it is sacred only in an inferior degree.

A noticeable point in the *Sutras* of *Apastamba* is the full recognition of the *Sudra* caste, of which no mention is found in the older portions of the Vedas. This caste is found in a hymn universally considered to be one of the latest. The authority for the law and the position of the four castes is explained as follows, in the very first verses of *Apastamba*:—1. We will declare the acts productive of merit which form part of the customs of daily life, as they have been settled by the agreement (of those who know the law.) 2. The authority for these duties is the agreement of those who know the law, (and the authorities for the latter are) the Vedas alone. 3. (There are) four castes, Brahmans, Kshatriyas, Vaisyas, and Sudras. (4.) Amongst these, each preceding (caste) is superior by birth to the one following. 5. (For all these,) excepting Sudras and those who have committed bad actions, (are ordained) the initiation, the study of the Veda, and the kindling of the sacred fire, and their works are productive of rewards (in this world and the next.) 6. To serve the other (three) castes (is

ordained) for the Sudra. 7. The higher the castes (which he serves) the greater the merit.

The aphorisms of the Nyaya philosophy, of the Mimamsa and Yoga, were reprinted in Sanskrit and English by Professor James Ballantyne of the Benares College. — *Mullen's Hindu Philosophy; Hunter's Imp. Gaz.; Dowson; Oriental Linguistic Studies*, p. 71; *Weber*.

SUTTEE, properly Sati, SANSK., a virtuous wife (from Sat, pure), a widow allowing herself to be burned with the corpse of her husband. This practice was abolished in British India on the 4th December 1829; but scarcely a year passes by free from its being carried out in some of the native principalities. About January 1883, for instance, a sati was committed at Utarna, in Jeypore territory, not far from the cantonment of Deoli, by the widow of Sham Singh, the thakur of the village. The principal offenders—the sons and brothers of the deceased thakur—were sentenced each to rigorous imprisonment for terms of seven years, while minor accomplices received sentences of three years each. It never was general throughout India, but it was very frequently practised in the Mahratta States, in Gujerat, in Rajputana, in some of the Panjab districts; and between 1813 and 1828, in Calcutta, the sats ranged from 300 to 600 yearly, and some cases were shockingly cruel.

Ram-Nathu, the second Sanskrit pandit in the college of Fort William, saw thirteen women burn themselves with one Mookta Rama of Oola, near Shanti-puru. After the pile, which was very large, had been set on fire, a quantity of pitch being previously thrown into it to make it burn the fiercer, another of this man's wives came, and insisted on burning; while she was repeating the formulas, however, her resolution failed, and she wished to escape; but her son perceiving this, pushed her into the fire, which had been kindled on the sloping bank of the river, and the poor woman, to save herself, caught hold of another woman, a wife also of the deceased, and pulled her into the pile, where they both perished.

Scythia.—The rite was practised in early times amongst Thracians, Getæ, and Scythians. Diodorus wrote B.C. 44, and he describes it to have occurred in the army of Eumenes, upwards of 300 years before the Christian era (Diodorus Siculus, lib. xix. chap. ii.). The custom is also mentioned, but much less distinctly, by Strabo, on the authority of Aristobulus and Onesicritus. Aristobulus mentions the practice of self-immolation among the widows of Taxila; it is noticed by Cicero in his Tusculan Disputation (sec. 27), and in A.D. 66, Plutarch in his *Morals* says, 'And among the Indians, such chaste wives as are true lovers of their husbands, strive and contend with one another for the fire, and all the rest sing forth for the happiness of her who having the victory is burned with her deceased husband.' Ramusio quotes Propertius on Sati. A few lines will show how familiar this still enduring Indian practice was to the Romans 1900 years ago,—

'Uxorum fuis stat pia turba comis;
Et certamen habit lædi, quæ viva sequatur
Conjugium; pudor est non leuissimè mori.
Ardent victrices, et flammæ pectora præbent,
Imponuntque suis ora perusta viris.'—P. 80.

North-men.—The Danish north-men of Europe retained the recollection of the sati in the story of

Balder, one of the sons of Odin, who was slain by a branch of mistletoe, and Odin himself descended and obtained a promise from the guardians of the dead, that Balder should be restored if all created nature would weep for him. All wept but one old crone whom Loki had possessed, so Balder could not be made to live again, and his faithful Nanna, refusing to survive her beautiful lord, perished on his funeral pile.

The Scythian idea of sati was connected with a future state. When the Scythians buried a king, they strangled one of his concubines, and buried her with him, together with his cup-bearer, cook, groom, waiting-man, messenger, favourite horses (Herod. iv. 71), to serve their master in the next world. Amongst the Thracians with whom polygamy prevailed, the wife decided to be the best beloved was slain by her next-of-kin over the grave of her husband (Herod. v. 5), and buried with him.

Ancient India.—(On the occasion of burning the body of Kichaka, whom Bhima had slain to avenge an insult to Draupadi, the deceased's relations wished to burn her with the body, but she was saved by Bhima. The first recorded sati in the Mahabharata, was performed by Madri, the second wife of Pandu; Kunti, the elder wife, contested the point, but the Brahmans who were present gave it in favour of Madri, who accordingly perished on her husband's funeral pile. Just before the town of Dwarka was overpowered by a storm-wave, king Vasudeva died, and four of his wives burned themselves on his funeral pile. Krishna was accidentally slain by a Bhil hunter in the forest. Ayuna then conducted the flying multitude to Kurukshetra, where four of Krishna's widows burned themselves, and the rest of the widows assumed the devotee dress, and retired to the jungle. Sati was quite common, in parts at least of India, at the time of Alexander's invasion. In the Mahabharata we find that one of the wives of Pandu burned herself with his dead body. But after the great war in Kurukshetra, none of the numerous royal ladies burned herself. The account of the funeral rite of Dronacharya leaves some doubt as to whether his wife was burned or not. The passage is as follows:—'Behold the scholars of Dronacharya, after chanting the Sama Veda, performing his funeral rites, making his wife foremost and placing her on the right side of the pyre, are bending their steps towards the Dhagirathi.' The practice of the cremation of the widow, though not in existence when Rama lived, nor in much use when Yudisthira reigned, did not die away.

Modern India.—Self-immolation of Hindu widows with the bodies of their deceased husbands, was generally done at the sangan or confluence of rivers. The Sankalpa, or declaration of the sati, is as follows:—Having first bathed, the widow, dressed in new and clean garments, and holding some kusa grass, sips water from the palm of her hand; holding in her hands kusa and tila, she looks towards the east or north, whilst the Brahman utters the mystic word O'm. Bowing to Narayan, she next declares, 'On this month (naming the time) I (naming herself and family), that I may meet Arundhati, the wife of the Rishi Vaisistha, and reside in Swarga; that the years of my stay may be numerous as the hairs on the human body; that I may enjoy with my husband

the felicity of heaven, and sanctify my maternal and paternal progenitors, and the ancestors of my husband's family; that, lauded by the Apsarasas, I may be happy through the regions of fourteen Indra; that expiation may be made for my husband's offences, whether he have killed a Brahman, broken the ties of gratitude, or murdered his friend,—I ascend my husband's funeral pile. I call on you, ye guardians of the eight regions of the world, sun and moon, air, fire, ether, earth, and water, my own soul! Yama, day, night, and twilight, I call you to witness, I follow my husband's corpse to the funeral pile.'

After much discussion, during which Raja Ram Mohun Rai made great efforts in the cause of prevention, sati was at last legally abolished in British India by Lord William Bentinck; and though it is still occasionally performed, all who engage in it are severely punished. It is rare in Kashmir, but still current in Bali.

The chief characteristic of sutteeism is its expiating quality; for by this act of faith, the sati not only makes atonement for the sins of her husband, and secures the remission of her own, but has the joyful assurance of reunion to the object whose beatitude she procures. Menu inculcates no such doctrine: 'Let her emaciate her body, by living voluntarily on pure flowers, roots, and fruit; but let her not, when her lord is deceased, even pronounce the name of another man.' Again, he says (Menu, v. p. 160): 'A virtuous wife ascends to heaven, though she have no child, if after the decease of her lord she devotes herself to pious austerity; but a widow who, from a wish to bear children, slights her deceased husband by marrying again, brings disgrace on herself here below, and shall be excluded from the seat of her lord.'

When the subject of prohibiting sats in British India was under discussion, Brahmans, in support of the rite, gave a quotation of a verse from a chapter of the Rig Veda. This Colebrooke translated as follows: 'Om! let these women, not to be widowed, good wives, adorned with collyrium, holding clarified butter, consign themselves to the fire! Immortal, not childless, not husbandless, well adorned with gems, let them pass into the fire whose original element is water.' Professor Wilson afterwards pointed out, however, that they had falsified the text by altering the words *Yonim* agree into *Yonim* agneh. Also the words of the verse in question are addressed not to the widow, but to the other women who, besides the widow, are present at the funeral; and its correct translation is: 'May those women who are not widows, but have good husbands, draw near with oil and butter. Those who are mothers may go up first to the altar, without tears, without sorrow, but decked with fine jewels.' A second marriage in a Hindu woman of several of the races in India who are following Brahmanism, is considered an unlawful act.

Dr. Wilson says, 'We have additional and incontestible proof that the Rig Veda does not authorize the practice of the burning of the widows.' The widow of the deceased had, however, to attend with married women the funeral of her husband. She was placed with his dead body on the funeral pile, and, after the performance of certain ceremonies, she was brought down, and was thus addressed by the priest:—

'Rise up, O woman, to the world of life,
Thou sleepest beside a corpse, come down;
Thou hast been long enough a faithful spouse
To him who made thee mother to his sons.'

The married females attending had then to anoint their eyes with collyrium, when they were thus addressed:—

'The women now draw nigh with oil and butter,
Not widows they, proud of noble husbands;
First to the altar let the mother come
In fair attire, and with no grief or tears.'

There is a passage in the Taitrya Aranakna of the Yajur Veda containing the following address to the widow by the younger brother, disciple, or servant of the deceased:—'Rise up, woman, thou liest by the side of the lifeless; come to the world of the living, away from thy husband, and become the wife of him who holds thy hand, and is willing to marry thee.' This is a clear proof of the widows marrying during the Vedic period. And that the widow was brought down and not allowed to be burned, is also confirmed by her collecting the bones of her late husband after a certain time. But other writers held differently. Angira, one of the sage legislators who was a contemporary of Menu, says, 'The woman who burns herself after the death of her husband gains, like Arundhati, heavenly glory. She purifies the sins of the murderers of the Brahmans, the ungrateful, and the slayers of friends. For Sadhi women there is nothing so meritorious as cremation after the death of their husbands.' The next mention is in the Katyana Sutra, and the age of Katyana is about the 5th century B.C.

Rajputana women of rank seem to have been the most willing to accompany their husbands' remains to the funeral pile. Amongst all others of the Hindu and Sikh religionists, and notably amongst the Mahratta Brahmans, the sats were often urged for political reasons, and to get rid of the emembrance of lone widows. When the Rajput Jawan Singh of Edur died in 1833, there was a forcible sati of his widow.

When Man Singh died, in the reign of Jahan-gir, sixty of his 1500 wives were reported to have burned themselves. Colonel Tod relates (Rajasthan, ii. p. 93) that at the cremation of the body of the ruler of Marwar, Raja Ajit Singh, on the 13th of the dark half of the month Asar, in 1780, the deceased's Chauhani queen, whom Ajit had married in his non-age, and mother of the parricide, the queen from Derawul, the queen from the Tuar race, the Chaora rani, and her of Shekhawati, with fifty-eight curtain wives, all burned themselves.

In the Mahratta country, the monument over the ashes of a sati has usually a hand and arm engraved on it. But at Brahmanwari in Aukole, the monument over the ashes of Bapu Gokla's daughter has two feet engraved on it. She burned herself there on hearing of her husband's death after the battle of Koreygaon. Rao Lakha, at his tomb at Bhoj, is represented on horseback, with seven sati stones on the left, and eight on the right. The tomb was erected about 1770. The Kaur race of Sirguja at one time encouraged sats. A grove between Partabpur and Jil-milli is sacred to a sati, to whom once a year a fowl is sacrificed, and once every third year a black goat.

The emperor Akbar discouraged sati, and on one occasion rode nearly a hundred miles at his utmost speed, to rescue the daughter-in-law of the raja of Jodhpur, whose husband had died. He positively prohibited the burning of widows against their will. Amongst Hindus also, sati was discouraged by relatives and friends. In addition to their own entreaties and those of the infant children, friends of the family and persons in authority used their influence to dissuade the widow, and in a family of high rank the sovereign himself would go to console the widow.

One common expedient was to keep the widow engaged in conversation while the body was quietly removed and burned. It was reckoned a bad omen for a government to have many satias.

When Sukwar Bai, widow of Raja Shao, was plotting the extinction of the power of the Peshwas, Balaji Rao, who had detected her plot, sent her as a sneering message 'that he hoped she would not think of burning herself with her husband's body,' she forthwith burned herself; at the same time he had promised her brother an estate, provided she, 'for the honour of the family,' became a sati.

Southern India.—Mr. Elphinstone says, 'The practice of sati is by no means universal in India. It never occurs to the south of the river Kistna.' The Abbé Dubois also says (p. 198) that satias were rare in the south of the Peninsula. Nevertheless, Marco Polo stated the practice of Southern India just as Odoric does; whilst in 1580, Gasparo Balbi, an accurate and unimaginative traveller, describes with seeming truth a sati which he witnessed at Negapatam, and speaks of the custom as common. In the middle of the 17th century, P. Vincenzo, the Procurator-General of the Carmelites, says it was especially common in Canara, whilst he was told that on the death of the Naik of Madura 11,000 women had offered themselves to the flames. These 11,000 satias may have been as mythical as the 11,000 virgins of Cologne, but the statement proves the practice there, and in the beginning of the 18th century it continued to be extremely prevalent in that region. P. Martin, in a letter from Marawar (or Ramnad, opposite to Ceylon), dated in 1713, mentions three cases then recent, in which respectively forty-five, seventeen, and twelve women had performed sati on the deaths of the husbands, princes of that state. The widow of the raja of Trichinopoly, being left pregnant, burned herself after delivery.

Towards the close of the 18th century, sati was frequent in the Bengal Presidency, and most so in the Bengal Province. It was comparatively rare in the Madras Presidency and Orissa; Ganjam, Rajamundry, and Vizagapatam were the parts in which it most occurred. The custom was very prevalent under Mahratta rule, but under the British became very rare in Bombay. About the beginning of the 19th century, it used to occur at Poona, in ordinary and quiet periods, about twelve times on an average of as many years. Major Moor was a whole year at Poona, and knew of its occurrence only six times, but it was a tumultuous and revolutionary period, and people were of course put out of their usual and ordinary routine of thought and deed. It was generally carried out at the junction of the Moota and Moola rivers, about a quarter of a mile from

the skirt of the city, at which junction (thence called Sangam) the British Residency was situated.

The forms varied. In Bengal, the living and dead bodies were stretched on a pile, and strong ropes and bamboos were thrown across so as to prevent any attempt to rise. In Orissa, the funeral pyre was below the level of the ground, and the woman threw herself into it. In the Dekhan, the woman sat down on the pyre with her husband's head in her lap, and remained there until suffocated or crushed by the fall of a heavy roof of logs of wood, which was fixed by cords to posts at the corners of the pile. In the year 1817, 706 widows performed sati in Bengal. In 1818, 839 satias were returned as having occurred in the Bengal Provinces.

Ward relates that while at Allahabad an officer saw one morning 16 females drown themselves. Each had a large empty earthen pan slung by a cord over each shoulder. A Brahman supported each as she went over the side of the boat, and held her up till she, by turning the pan aside, had filled it, when he let her go, and she sank, a few bubbles of air rising to the surface of the water.

The widows of the weaver caste buried themselves alive.

It was common at Benares to set up, by the side of the river, stone monuments to the memory of widows who have been burned with the bodies of deceased husbands. Persons coming from bathing bow to these stones, and sprinkle water on them, repeating the words Sati, sati, i.e. chaste.

About the year 1860, the Delhi Gazette mentioned that in Central India a woman had been persuaded to consent to the sacrifice, and proceeded, after the usual ceremonies, to the pyre, accompanied by her friends and relatives. When she was on the top of the pile, and the flames began to ascend, her resolution gave way, and, screaming with terror, she leaped to the ground and tried to run away. The attendants tried to cut her down; she was struck with sticks, and wounded in two places with swords, but she ran down to the river's edge, where she concealed herself under some bushes. Here she was discovered, and thrown into the river (the Parwati), where she was drowned. Many of those concerned in this infamous outrage were apprehended, and tried at Goomah, in the neighbourhood of which station the occurrence took place. A nearly similar crime was perpetrated in 1858, in the Farrakhabad district, without a single one of the criminals being convicted or punished.

A writer in the Madras Times, in 1862, remarked that on the occasion of the death of the maharani of Udaipur, a sati took place in which the life of a slave girl was wantonly destroyed. Letters from Central India after that date conveyed the intelligence that another case of a somewhat similar description had since taken place at the cremation of the remains of the thakur of Rewa in Sirohi. The persons implicated were placed in confinement, and were to be punished agreeably to the penalties ordered to be inflicted by the Government for such offences.

Sikhs.—The practice of sati forms no part of the institutions of the Sikhs, and was rare amongst them. The Adi Grant's says, 'They are not satias who perish in the flames, O Nanuk! Satias are those who live of a broken heart.' But again,

'The loving wife perishes with the body of her husband. But were her thoughts bent upon God, her sorrows would be alleviated.'

An exception occurred in 1805 in the town of Buriah. When the Sikh raja Suchet Singh died, there were 300 women in his palace, all of whom were sacrificed with the deceased's remains. Also on the demise of Ranjit Singh, the four ranis—Koondun, daughter of Raja Sumsar Chund; Hinderi, daughter of Mian Puddum Ah, of Noorpur; Rajkunwur, daughter of Sirdar Jey Singh, of Chynpur; and Baant Ali—determined to burn, in spite of the entreaties and remonstrances of Khuruk Singh and his ministers, who guaranteed their rank and property. The corpse having been washed with Ganges water, and placed on a bier of sandal-wood, decorated with gold flowers, was carried, the day after his death, to the place of cremation, before the gates of the palace Hazaribagh, followed by the four ranis in their richest dresses, loaded with jewels of immense value, walking in a measured step, attended by Brahmans and Sodees (Sikh priests), singing the holy hymns of Nanuk, in the same form, and with the same ceremonies, which were beheld in these very parts (on the banks of the Ravi) by the army of Alexander the Great more than 2000 years before, and which are described by the Greek and Roman writers with a minute fidelity which would suit a modern sati. The funeral pile was made of sandal-wood, and when the procession reached it, an affecting scene took place. Rani Koondun, the principal widow, took the hand of Dhean Singh, and, placing it on the breast of the corpse, made him swear never to betray or desert Khuruk Singh, or his son Nou Nehal Singh, or forget the interests of the Khalsa; and Khuruk Singh, in like manner, swore not to betray or desert Dhean Singh. Besides the fatal curse of a sati, the torments incurred by the slaughter of a thousand cows were imprecated on the head of him who violated his oath. Rani Koondun then mounted the pyre, sat down beside the body of her late husband, which was in a sitting posture, and placed his head in her lap. The other ranis, two of them only sixteen years of age, and of extraordinary beauty, with five, some say seven, Kashmir slave girls (one of them the lovely Lotus, who had attracted the admiration of the mission in 1838), followed the example, seating themselves around the corpse, with every token of satisfaction in their countenance. At the hour fixed by the Brahmans, in the presence of all the troops at the capital and an immense crowd of spectators, including several British officers, the pile was lighted, one account states by Khuruk Singh, another by the rani Koondun, and without a shriek or groan being heard, the living and the dead were reduced to ashes. It is said the Raja Dhean Singh made four several attempts to jump upon the burning mass, but was withheld by the people about him. A witness of this appalling spectacle relates that a small cloud appeared in the sky over the pile, and that he saw (perhaps thought he saw) a few drops fall upon the smouldering embers, as if the very elements wept at the closing scene of this dismal tragedy. The ashes were conveyed in a palanquin of gold, in grand procession, accompanied by Khuruk Singh (in a plain white muslin dress), Dhean Singh, and

Kushal Singh, to the Ganges, and committed to that holy river.

Archipelago.—Bali and Lombok in the Archipelago largely profess Brahmanism. Sati still continues to prevail in Bali to an extent that India never knew, and the slaves of a great man are also consumed on his funeral pile. The widows are often despatched by a kris. In Lombok, wives may suffer themselves to be burned or krissed after the death of their husbands. The former is the more rare. The wives of the rajas, however, must suffer themselves to be burned. When a raja dies, some women are always burned, even should they be but slaves. The wives of the priests never kill themselves. An eye-witness thus relates how a gusti, who died at Ampanan, having left three wives, one of them resolved to let herself be krissed, against the will of all on both sides of her family. The woman was still young and beautiful; she had no children. They told me that a woman who under such circumstances suffered herself to be killed had indeed loved her husband. She intended to accompany him on his long journey to the gods, and she hoped to be his favourite in the other world. The day after the death of the gusti, his wife took many baths; she was clothed in the richest manner; she passed the day with relatives and friends, drinking, chewing sirih, and praying. About the middle of the space before the house they had erected two scaffoldings or platforms of bamboo of the length of a man, and three feet above the ground. Under these they had dug a small pit to receive the water and the blood that should flow. In a small house at one side, and opposite these frameworks, were two others entirely similar. This house was immediately behind the *bali-bali*. At four o'clock in the afternoon men brought out the body of the gusti, wrapped in fine linen, and placed it on the left of the two central platforms. A priest of Mataram removed the cloth from the body, while young persons hastened to cover the private parts of the dead with their hands. They threw much water over the corpse, washed it, combed the hair, and covered the whole body with champaka and Kananga flowers. They then brought a white net. The priest took a silver cup filled with holy water (called *chor*), on which he strewed flowers. He first sprinkled the deceased with this water, and then poured it through the net on the body, which he blessed, praying, singing, and making various mystical and symbolical motions. He afterwards powdered the body with flour of coloured rice and chopped flowers, and placed it on dry mats. Women brought out the wife of the gusti on their crossed arms. She was clothed with a piece of white linen only. Her hair was crowned with flowers of the *Chrysanthemum Indicum*. She was quiet, and betrayed neither fear nor regret. She placed herself standing before the body of her husband, raised her arms on high, and made a prayer in silence. Women approached her and presented to her small bouquets of *kembang spatu* and other flowers. She took them one by one and placed them between the fingers of her hands raised above her head. On this the women took them away and dried them. On receiving and giving back each bouquet, the wife of the gusti turned a little to the right, so that when she had received the whole she had turned quite round. She prayed anew in

silence, went to the corpse of her husband, kissed it on the head, the breast, below the navel, the knees, the feet, and returned to her place. They took off her rings. She crossed her arms on her breast. Two women took her by the arms. Her brother (this time a brother by adoption) placed himself before her, and asked her with a soft voice if she was determined to die, and when she gave a sign of assent with her head, he asked her forgiveness for being obliged to kill her. At once he seized his kris, and stabbed her on the left side of the breast, but not very deeply, so that she remained standing. He then threw his kris down and ran off. A man of consideration approached her, and buried his kris to the hilt in the breast of the unfortunate woman, who sank down at once without a cry. The women placed her on a mat, and sought, by rolling and pressure, to cause the blood to flow as quickly as possible. The victim being not yet dead, she was stabbed again with a kris between the shoulders. They then laid her on the second platform near her husband. The same ceremonies that had taken place for him now began for the wife. When all was ended, both bodies were covered with resin and cosmetic stuffs, enveloped in white linen, and placed in the small side house on the platforms. There they remained until the time arrived for their being burned together.

It is always a near relation who gives the first wound with the kris, but never father or son. Sometimes dreadful spectacles occur; such was one at which Mr. K. was present. The woman had received eight kris stabs, and was yet quite sensible. At last she screamed out, impelled by the dreadful pain, 'Cruel wretches, are you not able to give me a stab that will kill me!' A gusti who stood behind her on this pierced her through and through with his kris.

The native spectators, whom, he adds, I had around me, saw in this slaughter which took place before our eyes, nothing shocking. They laughed and talked as if it was nothing. The man who had given the three last stabs wiped his kris, and restored it to its place in as cold-blooded a manner as a butcher would have done after slaughtering an animal.

Only the wives of the more considerable personages of the land allow themselves to be burned. They make a very high platform of bamboo, the woman ascends after many ceremonies, and when the fire is at its greatest heat, she springs into the middle of the flames. Mr. K. thinks that they do not suffer much, because during the leap they are stifled, and at all events the fire, strengthened by fragrant resins, is so fierce that death must speedily ensue.

Anugamana, in Brahmanism, is the performance of sati by a woman alone, whose husband has died in a distant country. A sandal, or any article of his clothes, may then represent him.

Arundhati, the wife of the Rishi Vaisistha, a resident of Swarga, is the spirit whom the devoted sati woman invokes, before mounting the pile.

China.—The Scythic practice is still followed by races of Tartar origin. The emperor Chun-Tche died at midnight (A.D. 1662?), and at dawn of day all the Bonzes and their adherents were chased from the palace. Towards noon the deceased was placed in his coffin, and wept for by an immense

multitude who had witnessed the ceremony. As soon as the ceremony of taking the oath of allegiance to young Kiang-hi was concluded, that of the funeral of Chun-Tche was commenced in a style of magnificence surpassing anything of the kind that had hitherto been witnessed. To the solemn and sumptuous pomp of the Chinese rites, were added the barbarous customs of the Tartars. Tragic scenes took place, in which many of the attendants of the late emperor put themselves to death, that they might proceed to the other world, and continue their accustomed services to their master. It is stated in the annals of China, that the empress-mother, perceiving a young prince, who had been the intimate friend and favourite of Chun-Tche, expressed to him, with strong emotion, her grief and astonishment at finding him alive. 'Is it possible,' said she, 'that you are still alive? My son loved you, is doubtless now waiting for you; hasten then to join him, and prove to him that your affection was sincere and generous! Run and bid adieu to your parents, and then have the courage to die! Your friend, my son, is stretching out his arms towards you.' According to the historian, these words, uttered in a tone at once affectionate and severe, caused great distress to the young man. He loved Chun-Tche, but he loved life also, and could not think of death without a terrible shudder. He was surrounded by his afflicted family, who were urging him to escape by flight from so frightful a sacrifice, when the empress-mother sent to him a present of a box ornamented with jewels, and containing a bowstring for him to strangle himself. The unfortunate young man still hesitated, for he was at the happiest time of life, and could not resolve to die of his own accord, as the barbarous prejudices of his nation required; but the two officers who had brought him the fatal present had orders from the empress-mother to help him out of this perplexity, and give a little assistance to his courage, should he be unable to put himself to death, and they helped him accordingly. The coffin of the deceased emperor was transported to the burial-place of the new dynasty, at twenty-four leagues north of Peking, and never probably was there such a procession as that which accompanied the remains of Chun-Tche to Manchuria. The immense multitude made the whole country resound with the voice of weeping and lamentation, for this prince, of whom in his latter days the people had seemed exceedingly tired, was now clamorously, and perhaps sincerely, regretted. 'For my own part,' wrote Father Schall to his friends in Europe, 'I owe an especial mourning to the memory of the emperor. For the seventeen years of his reign he never ceased to bestow on me many marks of kindness and regard; at my request he did much for the welfare of his empire, and would doubtless have done much more if a premature death had not thus carried off, at the age of twenty-four, this certainly intelligent and highly-gifted young man.'

A correspondent supplied All the Year Round with the following narrative of a tragedy enacted before his own eyes in the neighbourhood of Fuchufu:—'The first notification I had,' says he, 'of what was about to take place, was the parading of a handsome wedding chair about the suburb of the provincial capital in which our foreign settlement is situated. The chair was accompanied by

all the pomps and gaieties of a wedding,—music, gay streamers, and so forth. There was, however, one thing most unusual in this procession. The occupant of the chair was exposed to public gaze, instead of being, as in weddings is invariably the case, closely screened. On making inquiry among our Chinese servants as to what this extraordinary departure from established customs might portend, I was informed that the lady was no bride, but a disconsolate widow, recently bereaved, who, finding herself unprovided for and unprotected, and having, moreover, neither father nor mother, son nor daughter, father-in-law nor mother-in-law, was determined on following her husband to the unknown world, where she might serve and wait upon him as became his dutiful and loving wife. Having accordingly made known her intention to her friends, and having fixed the day for her departure, she was now taking leave of all she knew, and parading the streets as a pattern to her sex. The object of her death being to rejoin her husband, the ceremony was a sort of wedding. She was arrayed and adorned as a bride, and seated in a wedding chair. On the morning of the 16th January, I proceeded, accompanied by two friends, to a spot some four miles distant from Nantae, the seat of the foreign settlement and southern suburb of Fu-chu-fu. We found ourselves in a stream of people, chiefly women and girls, the greater part of whom were small-footed, and were hobbling along, leaning one against another for support, or assisting their tottering footsteps by means of the shoulders of dutiful sons or brothers. We arrived only just in time to see the chair of the victim carried on the ground, and herself ascend the scaffold which had been prepared for her. The chair was the bridal chair in which she had been carried about the streets, and the scaffold consisted of two stages, one raised a few feet from the ground, and the other a few feet higher. The whole was covered with a dark cloth canopy, supported by a framework of bamboo, within which was set a gallows of one very thick cross-piece of bamboo, fastened at either end to a strong upright pole. From this bamboo, under the canopy, and exactly in the middle of the scaffold, hung the fatal rope, covered with a red silk napkin; beneath it was set a chair to enable the devotee to reach the noose. On the lower platform was a table of choice meats and vegetables, at which she was to take her last meal in the land of the living. The table was surrounded by the woman's friends, dressed in holiday costumes, and wearing the red cap of Chinese officials. In former times it was the custom for two district magistrates to be in attendance on all these occasions, but since the higher authorities were hoaxed some years ago by a lady whose courage failed her at the last moment, they have refused to be present at such exhibitions, and now despatch an inferior officer to superintend the arrangements. The chief actress appeared at first to be far less excited than any one in the vast concourse assembled. She was dressed in red bridal robes, richly embroidered with coloured silk, and her head was adorned with a handsome gilt coronet. Her decidedly plain face betrayed not the slightest emotion, and she sat down at the table with as much apparent goodwill as if it had been her bridal rather than her funeral feast. After the lapse of about half an hour, the poor

woman, having apparently satisfied her appetite, rose from her seat, and still standing on the lower platform, addressed the surrounding crowd in a set speech, thanking them for their attendance, and explaining why she acted as she did. When she had finished speaking, she took from a bowl on the table several handfuls of uncooked rice, which she scattered among the crowd, and eager was the scramble to get a few grains as her virtuous blessing. This done, she fondled her baby nephew, and bade an affectionate farewell to her brother, who stood by her on the scaffold; then, stepping upon the upper stage of the platform, she bowed gracefully to the surrounding multitude, and addressed to them a few last words. She was helped to mount the high chair placed under the rope, but the rope proving to be still beyond her reach, her brother stepped forward and held her up in his arms, while she with her own hands passed the fatal noose over her head, and adjusted the cruel slip-knot to the back of her neck. The red silk napkin was then placed over her face, and a handkerchief fastened to her right hand. At a signal given by herself, her brother stepped back and left her suspended in mid-air. She then, shaking her joined hands before her breast, 'chin-chinned' the crowd, her own weight causing her to turn round and round, so that persons on all sides received her parting salutations. The spectators had, up to the fatal moment, been laughing and chattering as if assembled at a village fair, but now there was perfect stillness, as every ear was strained and every eye intent. In two or three minutes the action of the hands, at first decided and regular, grew weaker and weaker, and finally ceased altogether; then followed a convulsive shudder of the tiny feet (not above three inches in length), and all was over. The body was allowed to remain suspended for about a quarter of an hour, when it was cut down and placed in a common covered palanquin which was in waiting, the bridal chair having been removed. The rope which had been the instrument of death was now cut into small pieces, and distributed among the friends on the scaffold, all struggling violently to obtain a portion. The chair and the corpse were carried to a small temple about a hundred yards from the spot, followed by a terrific rush of people anxious to obtain another glimpse of the lifeless clay.—*History of the Panjab*, i. p. 170, ii. p. 169; *Huc's Christianity*, ii. p. 401; *Chambaham's Sikhs*, p. 364; *Elphinstone's India*, pp. 185, 190; *M. Polo*, iii. p. 20; *Viaggio di Gasparo Balbi*, p. 83; *P. Vincenzo*, p. 322; *Letres Edifiantes*, ed. Lyon, 1819, vii. pp. 73-75; *Yule, Cathay*, i. p. 80; *Colebrooke in As. Res. on the Duties of a Faithful Wife*; *Vigne*, p. 87; *Dr. Vaughan*, p. 192; *Herod.* iv. p. 71, v. p. 5; *Coleman's Myth. Hind.* p. 82; *Sonnerat's Voyages*, p. 43; *Ward's Hindoos*, ii. p. 19, iii. p. 25; *Wilson's Hindu Theatre*; *Tod's Rajasthan*, i. pp. 633-35.

SUTTOO, HIND., or Champa of the Bhot in Little Tibet, is finely-ground flour or roasted barley, eaten uncooked or made into a porridge.

SUTUK, a Hindu ceremonial after child-birth and after death.

SU-TUNG-PO, a celebrated poet of China. Several wayside springs are dedicated to him, and called Se-yen-tseuen, the spring where the poet washed his inkstone.

SUTWASA, a rite observed amongst Muhammadans when a woman has attained the seventh month of her pregnancy.—*Herk*.

SUVARNA, in Hindu geography, is said to be the same with the river Sone, but also one of the islands called Lanka. Suvarna Bhumi, of the ancient writers, is the modern Thatun on the Sitang river. Suvarna-dwipa was Ireland, also called Surya-dwipa, and Suvarna-tataacas, a tribe living on the borders of Ireland.—*Fergusson*; *As. Res.*

SWAD. ARAB. A letter of the Arabic, Urdu, and Persian alphabets, which is used by princes as a sign-mark or Baiz; a part of the word Sahih, correct.

SWAHA. SANSK. Offering, presentment of oblations.

SWAHA, in Hindu mythology, is usually understood to be the goddess of fire, the consort or sakti of Agni. She was daughter of Kasynpa, and resembles the younger Vesta of the Romans or goddess of fire, of whom the Romans had no images in their temples to represent her. Similarly Swaha has no image.

SWALLOW, a bird of the family Hirundinidae, sub-family Hirundininae. In India are—

- Hirundo rustica, L., Europe, India.
- H. domicola, *Jerdon*, Neilgherries, Bangalore.
- H. filifera, *Stephens*, all India, Kashmir.
- H. daurica, *Linn.*, all India, Kashmir.
- H. fluviicola, *Jerdon*, Central India.
- H. hypertyrha, *Layard*, Ceylon.
- H. tytleri, *Hume*.
- H. rufoceps, *Hume*.

The daurian or red-rumped swallow, *Hirundo daurica*, is plentifully distributed over the lower regions in summer, but migrates to the plains of India during the cold months.

The wire-tailed swallow, the *Hirundo filifera*, is plentiful in the Dekhan during the summer months. It is on wing soon after daybreak, and may be observed skimming over the ground all day long, hunting its winged prey. In the calm and delightful evenings peculiar to Poona, they may be seen in hundreds, perched on stones and tufts of grass upon the plains and the river-banks, and just as night is closing in they rise and seek a roost on the tallest spires and mosques. It is seldom that the males have their delicate tail appendages perfect, and often they are entirely wanting.—*Adams*; *Jerdon*. See Birds, p. 374.

SWALLOW NESTS. The edible swallow nests are those built by five species, four of which belong to the Archipelago. The common edible swallow nest is that of the *Collocalia esculenta*, *Gray*, the *Hirundo esculenta*, *Linn.*; another, which has a white patch at the base of the tail-feathers, *C. fuciphaga*, *C. Bon.*, is of a uniform brown colour. *C. nidifica*, *Latham*, is the Indian edible nest swiftlet. Mr. Blyth, however, says *C. fuciphaga* (*Hirundo fuciphaga*, *Thunberg*), linchi or lintye of the Javanese, identical upon comparison with Javanese specimens, would appear to be the sole producer of the numerous nests gathered on the rocky coasts of the Bay of Bengal. A white belly is characteristic of *C. fuciphaga*; and this particular species occurs abundantly on parts of the coast of the Malayan Peninsula, in the Nicobar Islands, and the Mergui Archipelago, and so high as on certain rocky islets off the southern portion of the coast of Arakan, where the nests are annually gathered and exported to

China. From all this range of coast, Mr. Blyth says he had seen no other species than *C. fuciphaga*.

C. fuciphaga is constantly seen inland in the Tenasserim Provinces. The Karen in the valley of the Tenasserim, in the latitude of Tavoy, are well acquainted with the bird, and they say it crosses the mountains to and from the interior every year. The Karen name of the bird is the white swallow, from its white belly.—*Mason*.

SWAMDHEKMA, loyalty or fidelity to him whose salt the Rajputs eat, their immediate lord, even against their king.—*Rajasthan*, ii. p. 25.

SWAMI. TAM., TEL. God, Lord, applied to any of the gods, also to priests, and to the true God. Swamula varu, TEL., literally the lords, a title for a guru or confessor, meaning his holiness. Swami or Sami, like the Latin dominus, the Italian signor, and English lord, is applied in the Tamil and Telugu countries alike to the Supreme Being, the Almighty God, to idols of every kind, and to individuals; it is also the titular designation for the head of any religious order of Hindus, likewise a respectful form of address to Brahmans, to Europeans and Muhammadans of rank, and in this last sense is the equivalent of master or Mr., and thus often used as a form of assent, or to acknowledge an order; many of the Tamil and Telugu Hindus have Swami as part of their names, as Rama Swami, Ranga Swami.

SWAMI-BHOGAM. TAM. The rent due to a landlord or proprietor. In the Tamil country it means the share of the produce or the rent which is paid to the mirasadar or hereditary proprietor by the tenant-cultivator holding the land in farm for a fixed period. In Malabar and Karnata it is the fee or acknowledgment paid by the tenant or mortgagee to the jaunkar or hereditary proprietor, and is often only a pepper-corn rent. It also signifies a religious grant or contribution for an idol.

SWAMI NARAYAN, an earnest religious Hindu reformer in Gujerat, who condemned caste and believed in one god, Brahm, in the form of Krishna, the same as the sun, Surya. He visited Bishop Heber on the 26th March 1826, with a cavalcade of 200 horse well armed, and a large number on foot. He had 50,000 disciples in Gujerat. He preached Krishna as the sole deity, inculcated purity of life and abstinence from violence. In 1871, his followers in Bombay numbered 1242.—*Heber*, iii. pp. 39-42.

SWAN. A large golden figure of the sacred bird is in front of the throne of the king of Burma, and is called in Burmese Henthā, a word of Sanskrit origin. The Henthā is regarded as the king of birds. It is perhaps a mythicized swan. The only swan that visits S.E. Asia is *Cygnus musicus*, the hooper swan, which is said to appear occasionally in Nepal. It is a bird of the northern regions. *C. Bewickii* is also a bird of Europe. *C. buccinator*, or trumpeter swan, and *C. Americana* are of North America; and *C. anatóides* and *C. nigricollis* are of South America. *C. olor* is the mute swan, of which *C. immutabilis* is the wild race. The black swan of Australia is *C. atratus*.—*Jerdon*; *Blyth*; *Yule*.

SWARGA or Swarga locum, according to Hindu mythology, the paradise of Indra—

'Great Surya smiles with lustre gay,
And flings through aure skies his ray;

The golden mountain's glittering brow
Is decked with many a sparkling gem,
Which shines, by Surya's brightness, now,
As if a halo circled them;
And on the mount, beneath his beam,
The king of Swarga's garden smiles,
In which, by many a gurgling stream,
The god his time in pleasure whiles.
Here Vayu through the charming wood
For ever creeps in gentlest mood:
Now o'er the blowing grass he goes,
Now stirs the fragrance of the rose.
Here many a flower of lovely hue,
Famed in the loves of former time,
Blossoms glittering with the diamond dew,
And sweetening the heavenly clime.
Young roses, through the passing breeze,
'To taste their sweets invite the bees.
Here fountains round the heavenly bowers
Perpetual full, and glittering showers
Of diamonds, pearls, and stars descend,
And sweet celestial music lead
Unto the ears of mortals, blessed,
For pious deeds, with heavenly rest.
The garden's edge is compassed round
With trees with lasting verdure crowned,
And in the garden's centre stands
A palace built by heavenly hands,
With sapphires decked, the golden walls
Of Satakruta's courtly halls,
Reflecting all their beauteous light,
And glistening round all fair and bright.
The snow-white pavements made have been
Of chrysolites of brightest sheen,
Where sweetest flowers of lovely hue
Are sparkling bright with drops of dew;
The outer wall is smooth all o'er
With rubies glittering more and more,
And through the gardens trees appear
Like morning's light in winter's sky,
E'er the resplendent Surya rears
His glorious face of light on high,
As if in floods of ruby light
The court is bathed and shines so bright.
But lo! a throng afar appears,
Like vanished joys of former years,
So indistinct, that scarce the eye
Its faint progression can descry,
As when at morning's dubious light
A star or two appears in sight;
And now behold, and now no more
They glimmer in the growing shine;
So like a mass of dim light o'er
The garden move the gods divine;
And midst them those who greater are
Shine like so many stars afar;
Now more and more advance they nigh
With breast erect and statures high,
With steps majestically slow,
With looks cast on the ground below;
Before them Indra, dignified
With royal mien and royal pride,
Proceeds.

The Apsaras, in Hindu mythology, are nymphs of Swarga, celestial dancers, celebrated for their beauty. Amongst them is Rembha, the popular Venus of the Hindus, and some others are described to be of inconceivable loveliness. They answer to the Pari of the ancient Persians, and the damsels called in the Koran, Hur-ul-ayun, the antelope-eyed Huri. These Hindu nymphs were produced at the churning of the ocean, as related in the Ramayana. Sir William Jones thus describes them in Swarga:

'Now, while each ardent Cinnara persuades
The soft-eyed Apsaras to break the dance,
And leads her loth, yet with love-beaming glance,
To banks of marjoram and champac shades,
Celestial genii tow'rd their king advance,
So call'd by men, in heav'n Gandharvas named.'


According to Kahatriya belief, warriors slain in battle are transported to Indra's heaven by the

Apsaras, nymphs of Swarga. Thus in Menu, vii. 89, it is said, 'These rulers of the earth who, desirous of defending each other, exert their utmost strength in the battle, without ever averting their faces, ascend after death directly to heaven.' And in Book ii. 19 of the Nala, Indra says, 'Why are no warriors slain now-a-days, that I see none arriving in heaven to honour as my guests?' Swarga-rohana, SANSK., death; a Hindu funeral ceremony; ascending to heaven. Swarga Vilasam, or celestial pavilion, the throne-room of the rulers at Madura.—*Coleman; Sir William Jones' Hymn to Indra; Tr. of Hind. i. p. 302; Williams' Nala, p. 140.*

SWAROCHISHA, one of the fourteen patriarchs who preside over the fourteen Manvautaras of the calpa.

SWARTZ, an eminent Christian missionary and linguist, for whom a monument has been erected in St. Mary's Church, Madras, inscribed: 'Sacred to the memory of the Reverend Frederick Christian Swartz, whose life was one continued effort to imitate the example of his Blessed Master, employed as a Protestant missionary from the Government of Denmark, and in the same character by the Society in England for the Propagation of Christian Knowledge. He, during a period of fifty years, went about doing good, manifesting in respect to himself the most entire abstraction from temporal views, but embracing every opportunity of promoting both the temporal and eternal welfare of others; in him religion appeared not with a gloomy aspect or forbidding adieu, but with a graceful form and placid dignity.' Among the many fruits of his indefatigable labours was the erection of the church at Tanjore. The savings from a small salary were for many years devoted to the pious work, and the remainder of the expense supplied by individuals at his solicitation. The Christian seminaries at Ramnadpuram and in the Tinnevely Province were established by him. Beloved and honoured by Europeans, he was, if possible, held in still deeper reverence by the natives of this country, of every degree and in every section, and their unbounded confidence in his integrity and truth upon many occasions was rendered highly beneficial to the public service. The poor and the injured looked up to him as an unfailing friend and advocate. The great and powerful concurred in yielding him the highest homage ever paid in this part of the globe to Europeans. Hyder Ali, in the midst of a bloody and vindictive war with the Carnatic, wrote to his officers to permit the venerable Father Swartz to pass unmolested, to show him respect and kindness, for he is a holy man, and means no wrong to any Government. Tuljajee, raja of Tanjore, when on his death-bed, desired to entrust to his protecting care his adopted son Serfojee, with administration of all affairs of his country. On a spot of ground granted to him by the same prince, two miles east of Tanjore, he built a house for his residence, and made it an orphan asylum; here the last 20 years of his life were spent in the education and religious instruction of children, particularly those of indigent parents, whom he gratuitously maintained and instructed; and here, on the 13th of February 1798, surrounded by his infant flock, and in the presence of several of his disconsolate brethren, entreating them to continue to make religion the first object of their efforts,

and imploring with his last breath for the divine blessing to attend them, he closed his truly Christian career in his 72d year.

SWASTI. SANSK. A compound of Su, well, and Asti, it is; meaning It is well, or, as Wilson expresses it, So be it; and implying complete resignation under all circumstances. The Swasti of Sanskrit is the Suti of Pali, and the mystic cross, or Swastika , is only a monogrammatic symbol formed by the combination of the two syllables suti = suti. It is the Sutyā of Gujerat. The Greeks adopted the Indian symbol of Swastika, as the pottery from the Kamiras and the prototype of Crete show. It is said to be the filat of the Buddhists, often found on Buddhist images, which Buddhists themselves regard as the emblem of the seal of Buddha's heart. It is conjectured that this symbol must have been brought to China, Japan, and Mongolia by Buddhist priests, and its origin is therefore to be looked for in India. It appears there on the most ancient Buddhist coins, and has been noticed on the walls of all the rock-cut temples of Western India. Even the Ramayana mentions domestic utensils as marked with the same figure. The Swastika appears in ancient Teutonic and Scandinavian mythology under the name of Thor's hammer, as the sceptre of Thor, the god of thunder. It has also been discovered on ancient coins of Indo-Germanic nations. From all this it is concluded that the Swastika was the common symbol and chief magic charm of the Aryan races before they separated. To the present day this hammer of Thor is used among the German peasantry and in Ireland as a magical sign to dispel thunder. Moreover, as in the middle ages bells used to be rung to drive away thunder, the Swastika of the east used to be engraved on church bells, and to the present day many bells in England bear the symbol.

Mr. E. Thomas is of opinion that the mystic cross, being the counterpart of the ancient Swastika, originated in the idea of solar motion, the orb of the chief luminary being considered as the circumference of a wheel, within which the Swastika formed four regular spokes. The hymns of the Veda speak of the sun as 'travelling by an upward and a downward path,' and at evening 'unyoking his horses,' exactly in the same style as Phœbus or Phœton may be supposed to have done at the configuration not only of the Swastika or four-pointed cross, but also of the 'Triquetra' or three-footed revolving device, so commonly found on the coins of Asia Minor, Crete, and Sicily. The Swastika is a symbol of the Tantrika sects.

SWASTIKA, a Tibetan sect, who received their name from their peculiar symbol, the Swastika or mystic cross, which was typical of their belief in Swasti. They are the Tao-see of the Chinese; and the founder of the doctrine is said to have flourished between B.C. 604 and 523. The Swastika sect were rationalists, who held that contentment or peace of mind were the only objects worthy of attainment in this life, and the principles of the Swastika were received by the bulk of the people with very great favour. They assumed the name of Tirthakara (see Fo-kwa-ki, pp. 22, 23, and Cosma's Tibetan Grammar, pp. 181, 192, the old name of Tirthakar is still preserved among the Mongol as Ter), or pure-doers; but by the Buddhists of Tibet they are said to have been

indecent in their dress, and grossly atheistical in their principles. Their Tibetan name, Musteg or Finitimists, is significant of their doctrine of finite existence; but they are more generally known as the Pon or Pon-po. This sect prevailed throughout Tibet until the seventh century, but is now confined to the farthest parts of the most eastern province of Tibet. The name of Pon is evidently only the Sanskrit *Punya*, pure,—a synonym of Tirthakara. Between the Swastika, who promised nothing after this life, and the Brahmins, who offered an almost endless series of mortal existences, people of strong minds and deep thoughts must have been sadly perplexed. See *Tau*.

SWAT consists of a long valley, running downwards, generally in a south-westerly direction, but turning half round from east to west as it nears the British frontier, from which it is separated by a lofty range. It is difficult of access to a force moving from British territory. The *Lundye* or *Swat* river, the Suatos of the Greek geographers, **SANSKRIT** *Suvastu*, a river in Peshawur district, Panjab, rises beyond the British border, on the eastern slopes of the mountains which divide Panjakora from Swat territory. It receives the drainage of the entire Swat valley; enters Peshawur district north of Michni, and finally joins the Kabul river at Nisatha. Swat, Boneir, and the country to the east were occupied by that part of the Yusufzai who were the direct descendants of Yusuf; and the most prominent of their sections are the Abu Khel, the Shamozaï, the Nikki Khel, the Sibuzai, and the Marazai. The country towards the north, including the Jalash valley, in 1878 was under the chief of Der; the south-western part was under the Khans of Aladund, and the south-eastern or Baizai was nominally under the Khans of Thana, a large town near Sydu.

The lands along the river are low and swampy, and rice is the principal crop. As soldiers, the Swati rank below several of the most martial tribes; the damp climate has enervated them, and in physique they cannot compare with their brethren the Buner hillmen.

The Torwal tribe are highlanders, inhabiting the upper part of the Swat valley. They have about 9000 adult males, and they speak a language which Raverty calls, Kohistani. Some understand Pushtu. The Swati and the neighbouring tribes, Bunerwal, Hyazai, Malizai, Yusufzai, Mada Khel, Husnzai, for about 56 years, up to 1879, were under the influence of Abdul Ghafur, the Akhoond, who avoided quarrelling with the British when they became neighbours by their annexation of the Panjab in 1850. He was born 1799 or 1800, and died about 1879.—*MacGregor*, iii. p. 209; *Raverty*. See Yusufzai.

SWATCH. The No-Ground of the Hoogly and Indus rivers are two deep depressions in the sea bottom. That of the Hoogly, between Point Palmyras and Chittagong, is 18 miles from land, in lat. 21° to 21° 22' N., and is about 9 miles broad, with a depth of 50 to 150 fathoms. That of the Indus is 35 miles W. of the Seer mouth. It is 3 to 5 miles broad, and about 50 fathoms deep. No-Ground also in Persian Gulf.

SWAYAM-BHUBA, the Hindu Noah. His wife was Satarupa.

SWAYAMVARA. **SANSK.** The public selection of a husband by a princess or lady of rank.

One of the favourite incidents in the ancient heroic poems of the Hindus is the rite called Swayamvara, or the choice of a husband by a princess from an assembly of suitors met from all parts to take their chance in the selection. The heroes, at least in some instances, submit themselves in silent rivalry to inspection as she walks along their line to select from the throng the favoured suitor by presenting him with a garland, or a cup of water, or some such token of regard. Arrian represents the lady as acting a merely passive part, but the poems and the very name Swayamvara (from Swayam, herself, and Vara, choosing) show that she had an active share in the transaction. In the Institutes of Menu it is said (ix. 90), 'Three years let a damsel wait, though she be marriageable; but after that time let her choose for herself (vindeta) a bridegroom of equal rank; if, not being given in marriage, she choose her bridegroom (adhigachhed yadi swayam), neither she nor the youth chosen commit any offence.' The scholiast explains it of the so-called Swayamvara, 'adhikaguna-varatable samanajati-gunam varam swayam vrinita.' The candidates for the hand of the lady were invited to her father's house, and, after previous festivities for some days, were collected in a hall, round which the damsel passed and selected her future lord, by throwing a garland round his neck; the marriage rite was then celebrated as usual. The custom is the subject of much pleasing poetic description in the Mahabharata, the Naishadha, and other works. A translation of the Swayamvara of Draupadi from the former is published in the Calcutta Quarterly Magazine for September 1825. She was won by Arjuna. Damayanti chose Nala; Tarrati chose Chandra Sekara, and the princess of Kanouj threw the garland over an image of Prithi-raj. In the Hero and the Nymph by Kalidasa (Hind. Th. i. p. 226), Pailava describes a scene in which Urvasi played Lakshmi; Menaka was Varuni. The latter says—

'Lakshmi, the mighty powers that rule the spheres
Are all assembled; at the head appears
The blooming Kesava. Confess, to whom
Inclines your heart?'

Damayanti was the tried and exemplary wife of Nala. She prayed for her union with him, having inquired after and seen him in her apartments. Her becoming Swayamvara again was simply to make Nala, from whom she had been separated, know where she was, that he might come there and be reunited to her. Of the Kshatriya women, some married according to the Brahma mode, and some became Swayamvara. Aja married Indhumati, who was Swayamvara. His son Dasaratha had the daughter of Kosala offered to him, and he married her; but his second wife, Kaikeyi, whom he won, was a Swayamvara. Janaka, king of Mithila, made his daughter Sita Swayamvara. She prayed that she should be the wife of Rama, who bent the huge bow, and was the successful competitor. The character of Sita as a model wife and a holy woman is held high. When she met the venerable wife of Atri and was highly complimented, she said that, although she was devoted to Rama, and she tried her utmost to follow him, she doubted whether her soul mirrored the purity of his. When she solicited permission to accompany her husband into banishment, she said

'A wife must share her husband's fate:
My duty is to follow thee
Wherever thou goest. Apart from thee,
I would not dwell in heaven itself.
Thou art my king, my guide,
My only refuge, my divinity.'

After the death of Ravana, when she appeared before Rama, and when he cast reflections on her chastity, she dashed away her tears, brought on by the interview, and, rising from the dust at his feet, addressed Lakshmana as follows:—'Son of Sumitra! in thine eyes I see pity and trust of me. Build me a funeral pyre. Brother, since I am tainted in Rama's sight, 'tis time I should die.' When Draupadi became a Swayamvara, it was proclaimed that whoever would bend an enormous bow, and by it shoot five arrows simultaneously through a revolving ring into a target beyond, would win her. When she was brought to the Sabha, Dhristadumna informed her of the names of those who had been assembled. After the failure of several princes, Karna rose, when Draupadi publicly said, 'I will not marry a carpenter's son.' Arjuna rose, tried, succeeded, and won the bride. When she was taken to Kunti, the latter said to her sons, 'What you have acquired should be your common property.' What emanates from a mother must be done. The propriety of the marriage of one woman to five men was discussed at the Draupada raja's palace, where Kunti was present, and took a part in the discussion. Vyas supported Kunti, and sanctioned the proposed marriage. It appeared that during the Vedic times, the daughter of a rishi was married to Prachata and his nine brothers, and another woman of the Gautama line was the wife of a hundred rishis. But these were exceptions; they are not alluded to in the Rig Veda, and were quoted to legalize the marriage of Draupadi with the five Pandava.

Kunti was brought up by Kunti Bhoja; while at her father's, she took a delight in entertaining guests. She became a Swayamvara, and Pandu received her garland. When Draupadi was married to her sons, she addressed her as follows:—'Daughter! be thou full of esteem and love to thy husbands, as Indrani was to Indra, Swaha to Bibhasara, Rohini to Chandra, Damayanti to Nala, Bhadra to Baiswanara, Arundhati to Vasishtha, and Lakshmi to Narayan. Be thou the mother of heroes. Employ thyself with thy husbands in religious service, and thy prosperity will be unlimited. O daughter, employ thy time in looking after the guests, visitors, the virtuous, children, and the elders. By thee the rajas of the principal cities of Kura Jangala, etc., will be installed.' Kunti's next address to Draupadi was when she was about to proceed with her husbands, beggared by the game at dice, to pass twelve years in exile, and one year in disguise. Draupadi is described as an educated lady, and, according to her own account, she used to receive instruction from a Brahman teacher while on the lap of her father. The Bana Purva records her two conversations,—one with Yudishthira, on forgiveness and the providence of God, in which she shows great powers of observation; and the other with Satyabhama, wife of Krishna, who came to her while she was living in the forest with her husbands. The subject was, on the best way of making the husband attached to the wife. Draupadi said that she conducted herself humbly, serenely, and

devotedly to her husbands; she daily cleaned the house, utensils, cooked and offered meals at the appointed time. While at Indraprastha, she took care of Kunti, saw numerous Brahmans and maid-servants fed and clothed; she also looked after the servants, cowherds, and shepherds. She took care of the treasury, and gave orders on all matters connected therewith. She performed all her duties with every regard to truth, but unmindful of her personal comfort. She added, The faithful wife cannot attain happiness unless she practises self-denial. Do what I have told you, and before strangers remain quiet, but true to your convictions, avoiding excitement and thoughtlessness, and making those your friends who are virtuous and devoted to their husbands. When Jayadrata seized and carried her away, he was pursued by the Pandava; she had then the generosity to advise him to lay down his arms and implore forgiveness. — *Hindu Theatre; Calcutta Review*, No. 109, pp. 39, 40; *Calcutta Quarterly Magazine*, September 1825.

SWEEPERS. In Northern India the Muhammadan sweepers are called bhangī, lal-begī, khak-rob, halal-khor, and mehtar, meaning sweeper, lawful-eater, and prince. In the south of India, the village Toti is usually a sweeper.

SWEET POTATO, the *Batatas edulis*, has a sweet-tasted nutritious root, of which there are two sorts, red and white. The tubers are long, and, when boiled or roasted, very wholesome. They are sown precisely in the same manner as a potato, after the hot season, and are fit to be taken up in six months. The sweet potato of Pondicherry are the edible tubers of *Dioscorea purpurea*. — *Riddell*.

SWETA KETU, a sage mentioned in the Mahabharata, who denounced the practice of married women consorting with other men. — *Douson*.

SVETAMBARA, or white - robed, a Jaina sect. Another Jain sect is the Digambara.

SWETATA - PATRA. **SANSK.** The white canopy, one of the insignia of royalty of the Chalukya race whilst ruling at Kalyan, in the Dekhan.

SWIETENIA CHLOROXYLON. *Roxb.*

Chloroxylon Swietenia, D. C.

Satin-wood, . . .	ENG.	Mal-barute, . . .	SINGH.
Dhoura, . . .	HIND.	Kodowan porsh, . .	TAM.
Burute, Buruch, .	SINGH.	Billuga, Billu karra,	TEL.

This cabinet wood is well known for its glossy yellow shades. The tree grows in the Peninsula of India, at Gokak, on sandstone hills, and on the Alleh-Bella Hills, also in Ceylon, and is recognised to be of two kinds there,—the ordinary satin-wood, which is used for oil-presses, waggon wheels, bullock carts, bridges, cog-wheels, buildings, and furnitures; and the flowered satin-lusted samples of the same wood, which is used for picture-frames, furniture, backs of hair-brushes, cabinet-work, and next to ealamander is the most valuable of the Ceylon woods. It is hard, weighs 55 or 57 lbs. to the cubic foot, and is supposed to last about 80 years. It occurs in the Northern Circars. Very fine satin-wood grow at Kutapatti in the Tengricotta taluk of Salem, but Dr. Cleghorn supposes that a good deal of the oldest and best was destroyed by the railway contractors. It is used in the Madras Presidency for the naves of gun-carriage wheels, and is the best suited of

all the Madras woods for fuses. In beauty and lustre the flowered samples rival the bird's-eye maple of America. In England the best variety of the wood is the West Indian, imported from St. Domingo in square logs and planks from 9 to 20 inches wide; the next in quality is the East Indian, shipped from Singapore and Bombay in round logs from 9 to 30 inches in diameter; and the most inferior is from New Providence, in sticks from 3½ to 10 inches square. The wood is close, not so hard as boxwood, but somewhat like it in colour, or rather more orange; some pieces are very beautifully mottled and curled. It is now principally used for brushes, and somewhat for turning; the finest kinds are cut into veneers, which are then expensive. The Nassau wood is generally used for brushes. The wood has an agreeable scent, and is sometimes called yellow sanders. The price in the Madras Presidency is nearly the same as that of teak and blackwood. — *Roab; Tredgold; Dr. Cleghorn's Cons. Rep. p. 15, for 1860; M.E.J.R.; L.E.J.R.*

SWIFT, a name applied to species of *Acanthylis*, *Cypselus*, *Collocalia*, and *Dendrochelidon*. *Cypselus affinis* builds in societies among ruined palaces and domes. Its nest is made of clay, intermingled with feathers and grass. In haunts and habits it much resembles the European black swift. See Birds, p. 374.

SWINE, the hog family. The Jews and Egyptians were alike in refusing to eat the flesh of swine, except that the Egyptians, who reared those unclean animals to sacrifice to Isis and Osiris, indulged themselves in eating pork once a month, on the day of the full moon. The Jews and the Muhammadans throughout nearly all the world still abstain from this kind of flesh. See Sus.

SWINHOE, ROBERT, ob. 1877, H.M. British Consul, China, author of Catalogue of the Mammals and Birds of S. China, Formosa, and Islands, in Pr. Zo. So., 1870 and 1871.

SWORD.

Sayf,	ARAB.	Spada,	It.
Epe,	FR.	Espada,	Sp.
Talwar, Nimcha, .	HIND.	Katti,	TAM.
Dha Khand, . . .		Kilij,	TURK.

Swords of E. and S. Asia are of various shapes and names.

In the *Panjab*, a metal alloy known as sakela is used for the manufacture of swords, etc., consisting of cast-iron, abbat and kheri iron, and fouled or steel, welded together. Occasionally, in Jammu, a small quantity of silver and sometimes tin is beaten into and welded with the finest sword blades for the sake of texture and polish.

In *Isfahan*, sword-cutlers formerly enjoyed great celebrity, and numbers of swords are still manufactured there. The best blades are all made of Indian steel, imported into Isfahan in the form of small round cakes, which cost about two tomans each. Old Persian swords fetch very high prices all over the east; for they cannot now-a-days fabricate blades equal to those of former ages. When the blade has been hammered out of the koor or cake of Indian steel, it is put in the furnace, and kept there all night, subjected to the action of a low fire. In the morning it is taken out, smoothed and filed into shape, and then heated red-hot, and immersed for a few moments in a trough filled with castor-oil. It is next

polished, sharpened, and the hilt and scabbard fitted to it; and the last thing done is to bring out the jowhar or damask pattern. For this purpose the blade is perfectly cleansed from oil or grease, and a yellow kind of stone is ground to powder, mixed with hot water in a cup, which must be of china or glass, not metal, and the solution laid on over the blade with a piece of cotton two or three times. This brings out the black jowhar perfectly. The scabbards of Persian swords are all made of thin laminæ of wood joined together and covered with black leather, with a sort of pattern stamped on the outside.

The *Bikanir* people work well in iron, and have shops at the capital and all the large towns for the manufacture of sword-blades, matchlocks, daggers, iron lances, etc. The sword-handles, which often are inlaid with variegated steel or burnished, are in high request, and exported to various parts of India.

In *Cutch*, an inch bar of fine English or Swedish steel is forged into plates 7 inches long, 1 broad, and one-sixth thick. Similar bars of fine spot iron are prepared in the same manner. These are smeared with a paste of borax dissolved in water, and laid in piles of twelve—nine of steel to three of iron, or three to one alternately. Each pile is wrapped round with rag thickly plastered with mud made of a loamy earth; then heated, welded, and drawn out to a bar one inch and one-eighth broad and one-third of an inch thick; this is bent zigzag three or four times, is again welded and drawn out to half an inch thick, and during the heat borax is frequently dropped on the metal while in the fire. Two of these bars are next welded into one, and when about twelve or fourteen inches long it is bent into the form of a loop or staple. In the middle of this a piece of fine-grained file is inserted of the same width and nearly as thick. All is then welded together, and the blade is formed. To temper the blade, an earthen pot twelve inches wide and six deep is notched on the edges (the notches being opposite each other) with a file about a quarter of an inch deep, and is then filled nearly up to the notches with water. Oil is then poured on the surface. The blade being heated equally to a light red, is removed from the fire, and the point, entered into a notch on one edge, is passed to the opposite one, keeping the edge from a quarter to half an inch in the oil. It is drawn backwards and forwards rather slowly, till the hissing ceases and the rest of the blade above the fluid has become black. A jug of water without oil is then poured along the blade from heel to point. In order to take out the warp produced by tempering, the blade, when nearly cold, is passed over the fire three or four times, then, being brought to the anvil, it is set straight by striking it regularly but moderately with a hammer; by this means a Damascus curved blade may be brought nearly straight.

Cutting swords in Asia are made with a hilt so small as to render it impossible for a European hand to use them in the manner of cutting which is common with Europeans. In cutting, an oriental does not straighten his arm at the elbow. The handle is purposely made small and confined, in order that the swordsman may not be forced to straighten his arm, but draw the cut as he delivers it. Mr. Vigne, when at Teheran, had

seen a sheep laid in two at one stroke; and Suliman Mirza, one of the numerous sons of the late Futteh Ali Shah, king of Persia, had been known to cut a donkey in half at one sweep of his sword. Thirty-eight of the swords of the Asiatic races were described by Mr. Egerton in 1880 in a Handbook of Indian Arms. The worship of the sword (*asi*) may divide with that of the horse (*aswa*) the honour of giving a name to the continent of Asia. It prevailed amongst the Scythian Getae, and is described exactly by Herodotus. To Dacia and Thrace it was carried by Getic colonies from the Jaxartes, and fostered by these lovers of liberty when their hordes overran Europe. The worship of the sword in the Acropolis of Athens by the Getic Attila, with all the accompaniments of pomp and place, forms an admirable episode in the history of the decline and fall of Rome; and had Gibbon witnessed the worship of the double-edged sword (*khanda*) by the prince of Mewar and all his chivalry, he might even have embellished his animated account of the adoration of the scimitar, the symbol of Mars. The devotion of the Rajput is still paid to his arms as to his horse. He swears by the steel, and prostrates himself before his defensive buckler, his lance, his sword, or his dagger. The sword is an object of veneration or worship among the Govind Sikhs, as it was amongst the Getae, the Scythian ancestors of the Jats, from whom the Sikhs are descended. Tir-Singh, the enchanted sword of Angantyr, means Tir, water, and Sing, a lion, i.e. in water or spirit like a lion.—*Tait's Rajasthan*, ii. p. 204; *Royle's Arts*, etc., of India, p. 460; *Rohde, MSS.; History of the Panjab*, i. p. 105; *Egerton*.

SYAMA. HIND. *Oplismenus frumentaceus*, used in Bengal during the rains as fodder grass.

SYAMANTAKA, in Hindu mythology, a gem of great brilliancy, given by Surya, the sun, to Satrajita, a source of good, of prosperity, and happiness to the virtuous wearer, but deadly to a wicked one.

SYCEE SILVER, silver in the form of ingots, of various weights. The purest quality has 97 to 99 pure silver.—*Simmonds's Dict.*

SYHADRI, a range of mountains continuing down from the S.W. end of the Aravalli to the Western Ghats of India. The name is now, however, applied by geographers to the entire range of the Western Ghats, called by the natives Syhadri in its N. part, and Sukheit in its S. part, Malabar coast. Length, about 800 miles; from about lat. 21° 15' N., long. 73° 45' and 74° 40' E., they terminate almost precipitously, forming the N. side of the gap of Palghatcherry. Average height, 4000 feet. About lat. 21° N., 2000 feet; Mahabaleshwar, lat. 18° N., long. 73° 40' E., 4700 feet; Purundhar, 4472 feet; Singhur, 4162 feet; Hurrichundurghur, 3894 feet; about lat. 15° N., 1000 feet, towards Coorg; Bonasson Hill, 7000 feet; Tandianmole, 5781 feet; Papagiri, 5682 feet. Seaward face, though abrupt, is not precipitous, but consists of a series of terraces or steps. Chasms or breaks in the range give access to the plateaux, and are denominated ghats or passes, a name which has become generally applied to the range itself. Scenery delightful and grand, displaying stupendous scarps, fearful chasms, numerous waterfalls, dense forests, and perennial verdure.

SYKES, COLONEL WILLIAM H., Bombay army, was Statistical Reporter for the Dekhan from 1821 to 1834; from 1840, one of the Directors of the East India Company; a distinguished zoologist, meteorologist, geologist, antiquary, and statistic. He has written so much on each of so many subjects, that his papers are classed below.

Meteorology.—Mean Temperature of India at Various Elevations, Rep. Brit. Assn., 1834, iii. p. 567. On the Measurement of Heights by the Thermometer, *ibid.*, 1835, iii. p. 25, Lond. Geo. Trans.; Bom. Geo. Trans., 1839; Jackson's What to Observe, etc. On the Remarkable Difference betwixt the Fall of Rain at Mahabaleswar and that at Bombay and at Poona, *ibid.*, 1839, vi. p. 16. On the Meteorology of the Province of Coorg, in the Western Ghats, *ibid.*, 1842, xi. p. 22. On the Fall of Rain on the Coast of Travancore and Table-land of Uttri Mulli, *ibid.*, 1846. On the Fall of Rain on the Table-land of Uttri Mulli, Travancore, 1846, *ibid.*, 1848, p. 39. On a Remarkable Storm at Bombay, 6th April 1847, *ibid.* On Indian Hail-storms, *ibid.*, 1850, p. 43. On the Atmospheric Tides in the Dekhan, Phil. Trans., 1840. On the Meteorological Observations in India, Phil. Trans., 1850.

Zoology.—Geographical Range of certain Birds common to various parts of the World, chiefly to India, Rep. Brit. Assn., 1835, iii. p. 69. Fishes of the Dekhan, Trans. Lond. Zool. Soc., 1838. Catalogue of the Mammalia of the Dekhan, Zool. Trans., 1831, republished, Bl. As. Trans., 1832, i. Birds of the Dekhan, Zool. Trans., 1832, republished, Bl. As. Trans., 1834, iii. Quails and Hemipoda of India, Lond. i. 4to.

Statistics.—Wages of Labourers in the Dekhan, Rep. Brit. Assn., 1835, iii. p. 118. Special Report on the Statistics of the Dekhan, its Extent and Physical Circumstances; Geology, Ghats, Escarpments, Climate, Botany, Zoology, Antiquities, Population, Education, Irrigation, Mountains, etc. (See Dekhan), Rep. Brit. Assn., 1837, vi. On the Morality of Calcutta, *ibid.*, 1844, xiii. p. 88. On the Statistics of Hospitals for the Insane in Bengal, *ibid.*, p. 89. Statistics of Civil Justice in India for Four Years, from 1841 to 1844, *ibid.*, 1846, p. 94. Of Charitable Dispensaries in, *ibid.*, p. 96. Statistics of the Agra Government or N.W. Provinces, *ibid.*, 1847. Statistics of Civil Justice in Bengal to which Government is a Party, *ibid.*, 1848, p. 116. Contributions to the Statistics of Sugar produced in India, *ibid.*, 1849, p. 108. Statistics of Civil and Criminal Justice under the Bengal Government for the Years 1844, 1847, 1849, Rep. Brit. Assn., 1836, v. Statistics of the Educational Institutions of India, 1858, 8vo. On the Fruits of the Dekhan—Twenty-one Kinds of Ordinary Wild Fruits, Importance of Communication for the Introduction of Plants of India (Rudiments of Indian Exhibition of 1853, Bombay Economic Museum, Sir A. Johnstone on, in Lond. As. Trans.; Dr. Buist on, Bom. Geo. Trans., 1848). On the Dutch Possessions of the East Indies, Rep. Brit. Assn., 1848, p. 112. Prices of Cerealia and other Edibles in England and India compared, Rep. Brit. Assn., 1847. Mortality in the Jails of the Twenty-four Parganas, Calcutta, Rep. Stat. Survey of India, 1841. Catalogue of Chinese Buddhist Works, Lond. As. Trans. On the

Land Tenures of the Dekhan, *ibid.*, 1834, ii. pp. 205-233; 1836, iii. pp. 350-376. On the State of India before the Muhamnadan Invasion, founded on the Travels of Fa Hian, *ibid.*, 1836, vi. p. 248. On the Proprietary Right of the Soil vested in the Subject, not the Sovereign, in India, *ibid.*, 1836, vi. p. 246. Same subject as Land Tenures of the Dekhan. Mortality and Chief Diseases of Troops under the Madras Government in 1851 compared with that in 1842, 1846, and 1849, Jl. of Lond. Stat. Soc., 1851. On Expenditure of the Government of India on Public Works, *ibid.*, 1850.

Geology of a Portion of the Dekhan, Lond. Geol. Trans. iv. Second Series, 4to. On a Fossil Fish from the Table-land of the Dekhan, Lond. Geol. Trans., 1851, vii.

In 1832, a Catalogue of Birds, collected by Colonel Sykes in the Bombay Presidency, was published in the Proceedings of the Zoological Society of London. In this were enumerated 226 species, of which above 40 were described for the first time. This catalogue was undoubtedly the most valuable enumeration of the birds of India published, and contains descriptions, with many highly interesting observations on the habits, food, and structure of many of the species. Of those enumerated by Colonel Sykes, there were about 9 or 10 which Dr. Jerdon, when writing in 1839, had not observed, most of which are probably peculiar to the more northern portion of the range of ghats and neighbouring table-land. He wrote also Notes on the Religious, Moral, and Political State of Ancient India, London 1841; Statistics of the Educational Institutions of the East India Company; on the Increase of Wealth and Expenditure in the various Classes of Society in the United Kingdom, London 1837.—*Buist's Cat.*; *H. et T.*

SYLHET, in lat. 24° 50' 22" N., long. 91° 54' 40" E., a town in Assam, on the banks of the Surma, with a population of 16,846. It gives its name to a revenue district of 5440 square miles, in which is a population of 1,719,539. The territory of the raja of Jaintia was confiscated in 1835, in consequence of his complicity in the forcible seizure of certain British subjects, who were barbarously sacrificed at the shrine of Kali. In the south of the district, eight low ranges of hills run out into the plain, being spurs of the Tiperah mountains. The highest is about 1500 feet above sea-level. The frontier hill tribes are represented by 5715 Manipuris, 3108 Tiperahs, 2755 Khasyas, 2505 Kulis or Looshais, and 1188 Hajangs. Among the Hindus are the Kaibarits, 134,523, and the Chendal, 117,457; Kayasthas or clerks, 90,042; Sunris, 29,095. The majority of the Hindus belong to the Vaishnava sect. These are perhaps to be regarded as the professed adherents of the Kisari-bhajan sect, identical with the Karta-bhajas of Bengal. There are several frequented places of Hindu pilgrimage in the district, including two temples in the territory of Jaintia, where human sacrifices used to be offered up to the beginning of the 19th century.—*Imp. Gaz.*

SYMPHYTUM ASPERRIMUM, the Caucasian prickly comfrey, was introduced into Britain in 1790. It is a useful forage plant.

SYMPLOCOS (from συμπαρον, a knitting together), a genus of plants belonging to the natural order Styracææ. Wight, in Icones, gives 8.

foliosa, *Gardneriana*, *microphylla*, *monantha*, *nervosa*, *obtusata*, *pendula*, *pulchra*, *racemosa*. Thunberg gives as plants of Japan, *S. Japonica*, *prunifolia*, *myrtacea*, *lanceifolia*, *leptostachys*, *theophrastefolia*. In Burma there are three undetermined species. One named *Kain-tha-phogee*, *Burm.*, is a tree of Tavoy, where its timber is used in boat-building. A few of the people of Lampeng, in Sikkim, find employment in drying the leaves of a shrub, one of the genus *Symplocos*, for the Tibet market, which are used as a yellow dye. The leaves of *S. cratagioides* are said to have astringent properties. *S. paniculata*, the *Lodh* of Hindustan, grows in the Sutlej valley between Rampur and Sunnam at an elevation of 7000 to 9000 feet, and is used in dyeing. *S. pulchra*, on the Neilgherries, has hairy leaves and snow-white flowers. *S. ramosissima*, *Wallich*, of the Himalaya up to 7500 feet. The yellow silk-worm feeds on its leaves.—*Hooker's Him. Jour.* ii. p. 41.

SYMPLOCOS GARDNERIANA, *W. Ic.*, is a large and very beautiful tree when in flower, and decidedly the finest of the numerous species of the genus. It grows on the Animallays at 6000 feet elevation, and also in different parts of the Travancore and Tinnevely mountains and elevations as low as 4500 feet. Dr. Wight found it on the Neilgherries; the leaves turn yellow in drying, and they yield a dye.—*Beddome*.

SYMPLOCOS RACEMOSA. Roxb.

Lodh, . . . *BENG., HIND.* | *Lodduga*, *TEL.*
Hoora, *MAHR.* | *Erra lodduga*,
Savura, *Lodhra*, *SANSK.*

This small tree, from 10 to 12 feet high, and with a trunk about 20 inches in circumference, is a native of Nepal and Kamaon, of Bardwan and Midnapur in Bengal; grows also in the Kotah jungles, also in the Bombay Presidency, in jungles of the highest ghats. Wood small, white or yellowish, hard and durable, suitable for turnery. It is strong and compact, and might be used for cabinet as well as for other purposes. The bark of the root is sold at four seers the rupee, and is largely used for dyeing red. It is also used in medicine, being considered heating and promotive of the secretions. It is used also in the mesaliks for animals. The bark furnishes one of the red powders, known as 'abir,' scattered by Hindus in the festival of the holi.—*Thomson; Roxb.; Voigt; Gen. Med. Top.*

SYN, a respectful appellation of a fakir, also called shah and sultan.

SYNAGOGUE is the name given to the religious buildings of the Jews. Speaking of Jewish customs, Jesus says they love to pray standing in the synagogues, and in the corners of the streets. Both Hindus and Muhammadans offer their devotions in the most public places, such as at the landing-places of rivers, in the public streets, and on the roofs of boats, without the least effort at privacy.

SYNDESMIS TAVOYANA. Wallich.

Ka-tha khys, . . . *BURM.* | *Tavoy red-wood*, . . . *ENO.*

A very large tree of British Burma, and in great abundance in the islands on the coast and near Moulmein. The wood makes handsome furniture, and is used for building, boxes, etc. It is occasionally beautifully variegated, and well adapted for furniture and ornamental purposes. When the wood is steeped in ferruginous

mud, it turns jet-black and looks like ebony. The large cylindrical knobs, one or two inches in diameter, so often noticed in the ears of Karen women at Tavoy, are made of this wood after the colour has been changed. It is a valuable dye-wood both for black and red, but more especially for orange. The colours imparted to silk with different mordants are as follow:—

Muriate of tin—Three shades of orange, varying with the temperature of the bath and the time of immersion.

Acetate of alumina—Two shades of flame colour.

Acetate of iron—Two shades of drab.

Ditto, with a weak decoction of galls—A fine black, two shades.

Mixed with manjit, a variety of red and pinks are obtained, but not perhaps equal in intensity to those of the manjit alone.

Mr. Mason imagines that the Mergui red-wood is identical with the Tavoy red-wood, *Syndesmis Tavoyana*.—*Mason*.

SYNGNATHIDÆ, a family of fishes, of the order Lophobranchii. This order may be thus shown:—

ORDER v. Lophobranchii.

Fam. 1. Solenostomidae.

3 species of Solenostoma.

Fam. 2. Syngnathidae, Pipe Fishes.

First Group. Syngnathina.

2 Siphonostoma, 3 Ichthyocampus, 1 Urocampus, 1 Leptoichthys, 2 Stigmatopora, 1 Protocampus, 53 Syngnathus, 1 Nannocampus, 23 Doryichthys, 3 Cælonotus 9 Neropius.

Second Group. Hippocampina, Sea-Horses.

1 Gastrotokous, 3 Phyllopteryx, 25 Hippocampus, 3 Solenognathus, 2 Acentronura.

Third Group. Pegasidae, Winged Horses.

According to some authors, the pipe fishes, the sea-horses, and the winged sea-horses are assigned to distinct families, viz.—

Syngnathidæ, *Pipe Fishes*.—Body prolonged, slender, linear, or angulated; snout greatly prolonged, cylindrical; mouth terminal, vertical. Ventral fins absent; caudal fin wanting in some.

Hippocampidæ, *Sea-Horses*.—Head and body compressed; snout narrow, tubular; mouth terminal. Pectorals small; dorsal single; caudal fin wanting.

Pegasidæ, *Winged Sea-Horses*.—Body broad, depressed; snout suddenly contracted, narrow, somewhat protractile; mouth terminal, beneath. Pectorals generally large; caudal fin small. They all agree in having the endo-skeleton partially ossified; exo-skeleton ganoid; gills tufted (hence the group is named Lophobranchia), in the opercular aperture being small, and the swimming-bladder without an air-duct.

Syngnathus genus has the body elongated, slender, covered with a series of indurated plates arranged in parallel lines. Head long; both jaws produced, united, tubular. No ventral fins.

Hippocampus has its jaws united and tubular, the mouth placed at the end. The body compressed, short, and deep. The whole length of the body and tail divided by longitudinal and transverse ridges, with tubercular points at the angles of intersection; both sexes have pectoral and dorsal fins; the females only have an anal fin; neither has ventral or caudal fins. *Hippo-*

campus brevirostris, the sea-horse, or short-nosed hippocampus, habits are very singular.

In certain of the species of Syngnathus or pipe fishes, the males are furnished with an elongated pouch under the tail, and in *S. acus* the roe is transferred from the belly of the female to the pouch of the male. The Hippocampi or sea-horses while swimming maintain an erect position, but grasp with the tail whatever weeds or other objects meet it in the water, and, when fixed, the animal intently watches for and darts on prey with great dexterity. When two are near, they often twine their tails together. Their eyes move independently of each other, as in the chameleon. The species of Pegasus or flying horses inhabit Indian seas; it has a snout, but the mouth is under their snout, and is moveable. There are two distinct fins behind the pectoral, which are often large, hence the name.

SYPHEOTIDES AURITUS. *Latham.*

Otis fulva, <i>Sykes.</i>	The lesser florikin.
Khar-titar . . . of BHILS.	Tan mohr, . . . MAHR.
Kan-noul, . . . CAN.	Charaz, Charas, of S. INDIA.
Chulla charz, . . . HIND.	Warragoo koli, . . . TAM.
Lakh, . . .	Niala nemiki, . . . TEL.

The Bhil name means grass partridge, and it gets its Tamil name from being usually found in the Warragoo (*Paspalum frumentaceum*) fields. The lesser florikin, also called the common florikin and black florikin, is 19 to 21 inches long. In winter dress the male closely resembles the female, but has always some white on the shoulder of the wing; when in full-feeding plumage, the male in its head, neck, ear-tufts, medial-wing coverts, and all its lower plumage, is deep-black, the chin alone being white, the rest of the plumage fulvous. The different character of the plumage in the two seasons has led some to write on this bird under two names. It is found throughout India, from the extreme south to the foot of the Himalaya, and frequents long grass in preference to any other shelter.—*Jerdon.*

SYPHEOTIDES BANGALENSIS. *Gmel.*

Otis deliciosa, <i>Grap.</i>	O. Himalayana, <i>Vig.</i>
Bengal florikin, . . . ENG.	Charas, . . . HIND.
Charraz, Charaj, . . . HIND.	Dabar, . . . of NEPAL.

In the breeding season, the whole head, which is very fully crested, the neck, breast, and lower parts, and thigh coverts, are of a deep glossy black; the plumes of the breast elongated, forming a full-breast tuft, and the feathers of the neck in front also lengthened; back a rich olive buff, with zigzag markings, and a black dash in the centre of each feather. It is 24 to 27 inches long. It is found throughout Lower Bengal, north of the Ganges, north-easterly to the foot of the Himalaya, into Dacca, Assam, Tipperah, Sylhet, north-westerly into the valley of the Jumna, Rajputana, the Cis-Sutlej States, and parts of the Panjab. It frequents large tracts of moderately high grass. The sexes live apart but near each other.—*Jerdon.*

SYRIA, with Palestine or Judea, extends about 400 miles from N. to S., and 100 to 280 miles in breadth, between lat. 31° and 37° N., and long. 34° and 41° E., having on the north the pashaliks of Diarbekr and Marash in Asia Minor, on the N.E. and E. the Euphrates, on the S.E. and S. the Arabian Desert, and the Mediterranean on the W. Area about 48,000 square miles; population estimated about 1½ millions. Palestine is

usually termed the Holy Land. The principal rivers are Euphrates, Jordan, and Orontes. Syria is a Greek abbreviation of Assyria. Syria, or Aram, lying between the Mediterranean and the Euphrates, is separated into two plains by a double range of hills which divide the country from north to south. The smaller plain is next to the Mediterranean, and is fertile; the larger consists of sand and rocks, and stretches to the Euphrates. Libanus and Anti-Libanus, its principal mountains, are on the west well cultivated by means of terraced cultivation, but are barren and rugged on the east. In the south of Syria there is a great intermingling of nations and races and religions. In the western coast of the Peninsula of India is a small body of Syrian Christians. Its most powerful Bedouin tribe is the Anazeh; they are true nomades; part of them are in Nejd. They possess an ancient grant, in a copper-plate, of privileges bestowed on them. Syro-Arabian languages appear to have been spoken from the very earliest times by the various nations who inhabited that part of Asia lying to the eastward of the Tigris.

SYRINGA, a genus of plants of the order Oleacea. *Syringa Chinensis, Willde.*, the Chinese lilac, is a native of China cultivated in Europe. *Syringa villosa* has villous leaves, and is found in China on mountains about Peking.

Syringa emodi, Wall.

Chunu, . . . BEAS.	Rang-chul, . . . KANAWAR.
Ban-phunt, . . . CHENAB.	Karmar, . . . RAVI.
Ban-dakhr, . . . "	Ban-chir, . . . "
Guari, . . . "	Shatri, Dudla, . . . SUTLEJ.
Shafar, . . . KANAWAR.	Lolti, Rang chul, . . . "

Elliptical-oblong leaves, glaucous beneath, attenuated at the base, and acuminate at the apex, with purple flowers. A native of Kamaon, the Panjab Himalaya at 7000 to 11,000 feet up to the Indus, and collected by Bellew at 9000 feet near the Safed Koh. The wood is white and close-grained, and carves well. The leaves are eaten by goats.

Syringa Persica, L. Var. β. S. laciniata, Vahl.

Persian lilac, . . . ENG. | Hiasmin, . . . KANGRA.
Leaves small, lanceolate; flowers purple. A native of Persia, and cultivated in some of the gardens on the Kashmir lake; seems to be a variety of *S. laciniata*, a small shrub from four to six feet high. It is one of the most ornamental of low deciduous shrubs, and on that account is very commonly cultivated. When planted in pots and forced, it may be made to flower at Christmas; but by this process the fragrance of the flowers is lost. Of this species also three varieties are found in English nurseries, the white, the cut-leaved, and the sage-leaved Persian lilacs.—*Stewart; Eng. Cyc.; Voigt.*

SYRNIIUM INDRANEE, Devil Bird. *Sykes.* Mr. Blyth had some doubts about this bird. There would appear to be three or four distinguishable races, the Ceylon bird approximating most nearly to that of the Malayan Peninsula. The horror of the owl's nocturnal scream was as prevalent in the west as in the east. Ovid introduces it in his *Fasti*, L. vi. l. 139; and Tibullus in his *Elegies*, L. i. E. 5. But Pliny, I. xi. c. 93, doubts as to what bird produced the sound; and the details of Ovid's description do not apply to an owl.—*Tennent, Ceylon.*

SYUD, properly Sayyid, with the Mir, Sharif,

Shaikh, Beg, and Khan, are terms or titles assumed by Muhammadans as their birthright. Syud means lord, and is taken by all descendants of Ali and Fatima, but also by the children of the other wives of Ali. Ali had nine wives, by whom he had 14 sons and 18 daughters; Ali and Fatima's descendants from Hasan and Husain being styled Hassani or Syud Hassani, and Husaini or Syud Husaini, and those from the other wives Alavi or Syud Alavi. The Syud are also styled Mir or prince, their women are Saidani, their race Sâdât, and the offspring of a Syud and other Muhammadan woman Sharif or noble. As a rule, Indian Syuds are quiet, humble-minded men, not distinguished by other qualities from the Shaikhs; they are of Sunni and also of Shiah persuasion, and are met with serving as soldiers or in civil avocations, or following some religious duties. Amongst the women of the Syuds of Madras most can read the Arabic Koran and the Hindustani books of Belief and Devotion, but they cannot write. In all Madras, there were (in 1872) more than 1000 of this tribe of women, some of them also able to read Hindustani story books and could write a little, while a few even knew the Persian Gulistan, Bostan, Anwar-i-Sohaili, Abul Fazl, and other usual books in Persian, and can even write the Persian grammatically, but there are not more than 10 or 15 such women in all Madras. Also about 400 or 500 of them are good needlewomen and embroiderers. The Syud race of Barh in Northern India furnished many persons of note to the courts of Dehli from the reign of Akbar to that of Ferozkhsir. They are still numerous in Muzaffarnagar. In Kurachee and the Hyderabad district, the Syuds are landowners and extensive cultivators, and say they came from Arabia and Persia about 700 years ago. Kaghan is a long, narrow gleu, stretching upwards till it nearly reaches Chelas; the latter outpost of maharaja Gulab Singh's kingdom is a barren dependency of Hazara. It is inhabited by pastoral and aboriginal races, and was given by former rulers in fiefdom to a family of Syuds, who were confirmed by the British. These Syuds exercised internal jurisdiction, and sent certain members of the family in attendance on the Deputy-Commissioner of Hazara, virtually as hostages for good behaviour. The Syuds were summoned to answer numerous complaints preferred by the people of Kaghan; they came, but afterwards fled, and assumed an attitude of resistance, and intrigued with the Sitana fanatics and with the Hasanizai, then hostile to the British. The small principality of Banaganapilly, in the Ceded Districts, is ruled by Syuds.

Several Syuds have been distinguished theologians, viz. Syud Abd-ul-Kadar, styled Pir-i-Dastagir; Syud Ahmad, styled Kabir, the founder of the Rafai community of fakirs; Syud Jalal-ud-Din, Bokhari. Syud Zain-ul-Abidin, a venerated saint.—*Wilson's Gloss.*

SYUD AHMAD KHAN, author of the Jam-i-Jam. It comprises tables of the princes of the house of Timur, also the Syud and Afghan emperors of India, ending with Muhammad Bahadur Shah, then ruling at Dehli.

SYUD JAMAL, author of the Tar-Khan-Nama or Arghun-Nama, A.D. 1654-55, giving a history of these two families. He quoted largely from Mir Masum's Tarikh-i-Sind.

SYUD MA'SUM ALI SHAH was named by his disciples Ma'bud, 'the adored one,' a title only applied by orthodox Muhammadans to God himself. He was the great Sufi teacher of his time, the 12th century of the Christian era. The first appearance of Ma'sum Ali Ma'bud as a public teacher occurred in Isfahan (A.H. 1196-99), but in consequence of the denunciation of the Ulema, he and his disciples had their ears cropped and were expelled from the city.

SYUD SHAH, ZOOHOOR, distinguished by his wisdom, piety, and austerity of life. He built, of earth, a small monastery at Allahabad, which still remains. He was celebrated for his miracles; by his prayers the most frightful chronic complaints were immediately removed, of which an instance is given in respect to the case of the Governor of Allahabad, Nawab Oomdat-ul-Mulk Amir. Khan. Zoohoor boasted of having lived 300 years.

SYUD SULTAN ALI, ul Husaini, ul Musawi, us Safavi, a native of Ardabil in Azarbaijan, who travelled to Lucknow, the capital of Oudh, while Shuja-ud-Dowla was reigning. In A.D. 1798 he undertook a history of India, from the times of Timur to the death of the emperor Muhammad Shah, and he brought it down to A.D. 1805.

SZE. CHIN. A Buddhist monastery.—*Dr. Edkins.*

SZE-CHUEN, a large province on the west of China, with Tibet on its west. It is traversed by the Yang-tze-kiang and its affluents; chief town Ching-tu. The provinces of Yunnan, Kwei-chu, and Honan are on its south. Gold is collected in the sands of the rivers in Yunnan and Sze-chuen, especially from the upper branch of the Yang-tze-kiang, called Kinsha-kiang or Golden-sanded River. The largest amount is said by Sir John Davis to come from Li-kiang-fu near that river, and from Yung-chang-fu on the borders of Burma. It is wrought into personal ornaments and knobs for official caps, and beaten into leaf for gilding, but is not used as a coin, nor is much found in the market as bullion. Silver also is brought from Yunnan, near the borders of Cochin-China, and the mines in that region must be both extensive and easily worked to afford such large quantities as have been exported. Tavernier tells us 'there comes gold from China, which the Chinese exchange for the silver which is brought them. For, price for price, they love silver better than gold, because they have no silver mines. Yet it is the coarsest metal of all the Asiatic gold.'—*Williams' Middle Kingdom*, p. 144; *Tavernier's Travels*, 156.

SZE-MA TSIEN, the father of Chinese history.

SZU or Azes Scythians. Ili is a valley and town in Central Asia, from which Lassen supposes the Szu Tartars were expelled by the Yue-tchi or White Huns, B.C. 150. The Szu Tartars he supposes to be Sacæ, and the Yue-tchi to be the Tochari. After occupying Tahia or Sogdiana for a time, they are stated by the Chinese to have been driven thence, also, by the Yengar, some years afterwards, and to have established themselves in Kipen, in which name Lassen recognises the Koppen valley in the Kohistan. The great Kirghiz horde is adjacent to Ili and Tarbagatai. It is under the dominion of China, and exchanges large quantities of cattle on the frontier for silk goods.

T

T. The alphabets of the Arabic, Persian, Urdu, Sanskrit, Hindi, Mahrati, Gujarati, Bengali, Urdu, Telugu, Karnatica, Tamil, and Malealam, all contain letters with the sound of the English letter t; and the Arabic, Persian, and Urdu each have two letters with the power of the English letters th. This letter of the English alphabet has, in English, but one sound, as in tan, ten, tin, tone, tun, tyne; but in combination with the English letter h, it assumes two compound sounds, a softer one, as in than, thus, then; and a harder sound, as in thicken, thief, thong, thrall, thumb, and thwart. Th, with the sound of the English letter as in thief, and of the Greek letter theta, occurs in Telugu, Uriya, and Karnatica, but this sound is not frequent in other of the eastern tongues, though a t with the aspirated h occurs in most of them, in which h has the sound of an aspirate, pronounced after the t, and should be written t'h, and pronounced hatth'har.

There are many examples of the Chaldean transformation of the sh or s into t, and the following may be adduced:—Hebrew, Shekel, to weigh, becomes Tekel in Chaldee; Heb., Sheber, to break,—Chald., Teber; Heb., Seraphim,—Chald., Teraphim, the Babylonian counterfeit of the divine Cherubim or Seraphim; Arab., Supphon, a serpent,—Chald., T'uphon or Typhon. In Egypt, the s frequently passed into t. Thus we read in Bunsen, 'Tet, who is also called Set,' and many other similar examples. The Turanian tongues also alter the s to t, and thus sir-band or head-band becomes turband, and sarposh, a head-covering, becomes in Egypt tarboshi, as the Arabs have no letter p.

TAA LIM KHANA, the gymnasium of India, —one in almost every town. The Sindi are very fond of wrestling, but the Malla or wrestlers of Sind are, generally speaking, African blacks. In Sind wrestling it is not necessary, as in India, to throw the adversary on his back.—*Burt. Scinde.*

TABAKAT-i-AKBARI, by Nizam-ud-Din Hervi, is a history of the Muhammadan kings down to the 37th year of Akbar's reign; it is a historical work of great merit.

TABAKHIR. HIND. A mineral medicinal substance, not to be confounded with tabashir, the silex from the bamboo, from which it is quite distinct.—*Powell*, p. 99.

TABAL, according to Muhammadans, the man who made the first sword, the Tubal-Cain of the Hebrew Scriptures.

TABANIDÆ, a family of insects. Among its species is the zimb of Abyssinia, the very sound of whose dreaded hum sends the herds from their pastures, and makes them run wildly about, till they drop with fatigue, fright, and hunger. In the southern portion of the same continent, and quite as formidable, is the dreaded tæte, like the zimb, one of the Tabanidæ, though a different species. This insect, which is scarcely larger than the house-fly, reigns over certain districts, attacking the domestic animals. Its bite is certain death to the ox, horse, and dog, yet, strange to say, it produces no serious inconvenience to the human body, nor apparently to

the wild game of the country, the buffalo, giraffe, antelope, and zebra, which roam by millions over the same plains.—*Gosse's Natural History*, p. 110.

TABAQ. HIND. A tray. Mewa-ka-tabaq, or fruit-tray. Phool-ka-tabaq, flower or fairy tray.

TABARI, the Livy of the Arabians, the very parent of their history; but, as far as Ouseley could find by inquiry, given over for lost in Arabic. His name was Abu Jafar Muhammad.—*Ouseley's Travels*, i. 35. See Tarikh-i-Tabari.

TABAR-i-ALAM, a Muhammadan saint in whose name they perform urus.

TABASHIR. ARAB.

Banslochun, Bansk, BENG.	Tabaschir, . . . GER.
Wa-tai-ga-kyouk, BURM.	Dunlochan, . . . HIND.
Chuh-hwang, . . . CHIN.	Tivakshera, . . . SANSK.
Tien-chuh-hwang, "	Oonamaku, Unalie, SINGH.
Chu-kau, . . . "	Munjil uppu, . . . TAM.
Tabachir, . . . FR., TURK.	Vedurt uppu, . . . TEL.

A siliceous concretion found in the joints of the female bamboo. It is partly soluble in water, bluish white, concrete, adhesive to the tongue. It is composed of silica, 90.5; potash, 1.1; peroxide of iron, 6.9; alumina, 0.4 per cent. The Persians deem it tonic and aphrodisiac, the Arabs suppose it to be astringent; but from its composition we are warranted in supposing it to be entirely inert. It resists acids, is indestructible by fire, and forms, on being fused with alkalies, a sort of glass. It is much esteemed by the Hindus, Persians, and Arabs as a powerful tonic, and is said by them to have great efficacy in internal bruises. It readily imbibes all the volatile and fat oils, which produce an opacity. If the oils be tinted with acetate of copper, anchusa root, beech-nut, sulphuric acid, or malic acid, the tabashir assumes respectively the colours of the emerald, ruby, chrysoberyl, pink topaz, and Brazilian topaz. Mr. W. Lange has ascertained that the silicium in the sap of plants exists exclusively as a hydrate of silicic acid in very dilute solution. A similar substance has been found in jungle grass. In Ajmir it is used as an aphrodisiac, and in general debility. One massa is the dose, and it is sold at two tolas for one rupee.—*Jameson, Ed. Jour.*, 1820, ii. p. 97; *Smith, M.C.C.*; *Faulkner; O'Sh.; Mason, Gen. Med. Top.*; *Thomson's Rec. of Gen. Sc.* viii. p. 132.

TABAT MAKUS, the chapter of the Koran read backward.

TABAYLA DOLCE, syn. of Euphorbia balsamifera; its sap resembles fresh milk.

TABERNÆMONTANA, a genus of plants belonging to the natural order Apocynaceæ, found in the W. Indies, S. America, Australia, India, and tropical Asia. The flowers of many species are very sweet-scented, and the double-flowered variety of *T. coronaria* is very ornamental, and is one of the most common species in Indian gardens. The deep-red pulp surrounding the seeds of this species appears capable of yielding a beautiful colour. The cream-like sap of *T. utilis*, the milk-tree or Hya of Demerara, is said to be very nourishing. Other species are employed medicinally. The sap of *T. persicariaefolia* is considered a poison in Mauritius.

Tabernæmontana coronaria, R. Br.

<i>T. divaricata</i> , R. Br.	<i>N. divaricatum</i> , Linn.
<i>Nerium coronarium</i> , Ait.	
Wax flower plant, ENG.	Ghandi tagarapu, TEL.
Farkitagar, . . . HIND.	Nandi vardhana chettu, ,,
Nandier vatam, MALAL.	

TABIB.

This ornamental shrub is cultivated in flower gardens; the flowers are fragrant during the night. Dark shining leaves, flowers generally double, colour pure white, resembling wax, having a faint, pleasant smell. The foliage beautifully contrasts with its large blue-white double flowers, which are often called wax flowers. The wax flower of Bengal is a trailing creeper. *Hoya carnosa*. *Farkitagar* is the single variety, and *barritagar* the double-flowered. It is propagated by cuttings.

Tabernaemontana crispa, *Roxb.*

T. alternifolia, *Lian.* [Kurutupala, . MALEAL. This shrub grows on the coasts of Peninsular India, and is employed in medicine.

Tabernaemontana dichotoma, *Roxb.*

Cerbera manghas, *Lian.* [Manglus lactescens, *Burm.* Forbidden fruit. . ENO. [Diwi-kaduru-gass, *SINGH.*

This is a native of Ceylon, very common in the warmer parts of the island. *Kaduru* signifies forbidden, and *Diwi*, tigers. It thrives in a low situation, with a light mixed soil.

Tabernaemontana persicariaefolia, *Roxb.* A straight, middling-sized tree; the tree is sacred, and the scented wood is used in incense.

Tabernaemontana recurva, *Roxb.* *Tau-sa-lap*. *BURM.*, is a low shrub, indigenous about Moulmein, remarkable for its recurved peduncles and fragrant flowers.—*Roxb.*; *Gent. Med. Top.* p. 186; *Mason*; *W. Jc.*; *Thur.*; *Voigt*; *Gamble*; *Beddome*; *Book of Trees*; *Riddell*.

TABIB. *PERE.* A physician. *Tababat* medicine.

TABIK TUAN, the Malay salutation to a European, meaning I salute you, sir.

TABKATIA. *HIND.* Muhammadan religious mendicants, followers of Shah Madar. They dress in black, wear a chain round their ankles, and carry a small drum. They sometimes lead about monkeys and bears for show.

TABLA. *ARAB.* A kettle-drum. These are in pairs, and one is called *Aguara*, a couple of drums, played upon at the same time, one with each hand. *Tabal*, large drum, used in the field of battle.

TABLE BAY, lat. 33° 54' S., and long. 18° 25' E., leading to Cape Town at the Cape of Good Hope, is overlooked by Table Mountain.

TABLUNG, a rude pagan tribe in the hills of Assam, on the eastern frontier of the Mikir and Cachar.

TABOO or *Tabu*, in the islands of the Pacific, a ceremony to render articles and days sacred and protected. In some places patches of leaves are tied round the trees 6 or 7 feet from the ground, to indicate that it is private property. *Taboo* of the Polynesian Islands is known in the Archipelago as *Pomali*, and in Madagascar as *Kiady*, which is there a tuft of grass on the summit of an erect pole. Of the 'tabu days' in the South Sea Islands, Ellis the missionary says:—'Except those whose attendance is required at the temples, no individual is to be seen out of doors.' Again, 'If any one made a noise on a tabu day, he must die.'—*Montgomery*, i. p. 82; *Peschel*.

TABOR, a mountain of Syria, in Palestine, about midway between Nazareth and Tiberias. It is almost insulated, and overtops all the neighbouring summits. The Christians consider Tabor a holy place, in honour of the transfiguration;

TABUT.

but the Latins and Greeks are at variance as to the exact spot. In ascending the hill, on the right hand, looking into the plain of Esdraelon, stands a little village, called Deborah by the natives, in which, say the legends, Jael slew Sisera. The view from Mount Tabor is magnificent, and comprises places of the greatest interest; the hills of Gilboa and Samaria, mountains Hermon and Carmel, the plains of Galilee and Esdraelon, the Jordan and the Kishon, the Sea of Galilee and the Mediterranean, are all discernible. On the anniversary of the transfiguration, mass is performed at, and a great procession led to, the altars set up where the three tabernacles were made. They are in a vault underground.—*Skinner's Journey*, i. p. 130.

TAB RIVER is only partly in Khuzistan, near Beilabem, there of considerable size; it preserves a western course as far as Indian, a town of about 4000 inhabitants; up to which, when ascended by Lient. Whitelock, of the Indian navy, in 1836, it was found to be navigable for boats of 20 tons. From hence the river inclines more southward, and has a tortuous course through an alluvial soil to the Persian Gulf; an extensive population have their dwellings on its banks. A little way northward of the city of Shuster, at the bifurcation of the river Karun, is the famous reservoir called Shadarwan, with the bridge of Shapur, and several deep and fine kanats.

TABREEZ or *Tauris*, in lat. 38° 5' 10" N., and long. 47° 17' 46" E., is 4500 feet above the sea. It stands in a beautiful plain, and in the midst of a forest of orchards covering an expanse of country which has been estimated at 30 miles in circuit. It is the chief town of the Persian province of Azerbaijan, has narrow streets, with houses of a single storey. Its present population has been estimated at 30,000. It stands, however, on the outskirts of the Persian empire, and has been terribly exposed to the attacks of wild frontier tribes. In addition to this, earthquakes have repeatedly shattered it. Water is scarce. Turkish is the language spoken. Zobeida, wife of Harun-ur-Rashid, greatly beautified it. In A.D. 858, and again in 1041, it was destroyed by earthquakes. In 1392 Timur took and sacked it, and since then it has repeatedly changed hands between the Turkoman, Turks, Persians, and Russians. In Ptolemy's *Geography* *Tabreez* is written *Gabris*, a mistake of the gamma for the tau. The European geographer D'Anville supposes it to be identical with *Ganzaca* or *Gaza*, the capital of *Atropatene*, a part of *Media*, so called from *Atropates*, who, after the death of Alexander, made himself independent. Hulaku, grandson of Chengiz Khan, made it the capital of Persia.—*MacGr.* iv. p. 579; *Porter's Tr.* i. p. 220; *Mignan's Tr.* p. 333; *Ouseley's Tr.* p. 154.

TABUT, also *Tazia*, in India the representation of a tomb at the Maharram festival; a bier in the shape of a mausoleum, intended to represent the one at Karballa, erected over the remains of Husain. It consists of a bamboo framework, the interstices being filled up with a nicely clipped network of paper, often pasted on mica. But every variety of materials is employed, from the purest silver to ivory, ebony, sandal-wood, cedar, down to bamboo, also wax and bangles. Within it are placed alams or flags to represent those of Hasan and Husain.—*Herklots*.

TACAMAHACA, a resin obtained in America, Bourbon, and the E. Indies. That of Bourbon and India is produced from *Calophyllum calaba*; portions of this resin are obtained from *Elaphrium tomentosum*, *Canarium commune*, *Fagara octandra*, and likewise it is supposed from *Populus balsamifera*. It is imported from America in large oblong masses wrapped in flag leaves. It is of a light-brown colour, very brittle, and easily melted. When pure it has an aromatic smell, between that of lavender and musk; and dissolves completely in alcohol, water having no action on it. *Calophyllum calaba* is a native of Travancore. It is yellow, translucent, adhesive, of acid taste, and pleasant aromatic smell.—*Thomson's Chemistry*; *Paukner*: *O'Sh.*

TACCACEÆ, a natural order of perennial herbs, with large tuberous roots. Several species grow in the E. India and the Archipelago, *T. cristata*, *integrifolia*, *lævis*, *montana*, *Rafflesiana*, *musculata*, and *Brownii*.

TACCA PINNATIFIDA. *Lim.* Salep Tacca.

Tacca pinnatifida, *Gortn.*

Toja of BANDA.	Sarana SANSK.
Touk ta BERM.	Kara-chune TAG.
Tacca liker MALAY.	Kala karnay TAM.
Chanay kulangu, MALAC.	Kanda, Chunda TEL.

In the Moluccas, Otaheite, and other Society Islands, they make of the meal of the root a nourishing gelatinous cake, like that made of salep. It possesses a considerable degree of acrimony, and requires frequent washing in cold water previous to its being dressed. Dr. Harris in 1800 introduced it into Calcutta. In Travancore, where this root grows to a very large size, it is much eaten by the natives, who mix a sufficient portion of some agreeable acid with it to subdue its natural pungency.—*Herb. ii.* p. 172; *Voigt*; *Ainslie*.

TACHYPETES AQUILA, the *Attagen aquilus*, *Linna.*, or frigate bird, also called the sea-hawk, also man-of-war bird, and the boatswain, has short feet, and cannot swim or dive. It is intermediate between the predaceous sea and land birds, and makes other fishing birds abandon their prey. It is of great endurance, takes great flights, rising to great heights in the air. It ranges through all tropical seas, and hovers over the tropical waters. It has been seen 400 leagues from land, and yet is said to return to land every night. Its expanded pinions measure 14 feet from end to end.—*Bennett*.

TACLABO, of the Philippines, a gigantic oyster. Its shell is used as a font in churches.

TAD. HIND. A broad silver ring worn on the upper arm.

TADHAL. HIND., SIND. Preparations of bhang, poppy seeds, and other similar articles, drunk during the hot weather, and believed to be cooling.

TADMOR or Palmyra, a ruined city, known to the Bedouins as Sulaymania. It is three days' journey from the Euphrates. It attained to great splendour from its position, being for centuries a depot for the merchandise brought from the East Indies and up the Persian Gulf, and which was forwarded from Tadmor into Phenicia and Asia Minor. Solomon took this town under his protection, erected some fortifications for its defence, and gave it a garrison of his soldiers. During the reign of Mark Antony, its inhabitants were noted for their riches and their commerce with

the east. Pliny notices it as a fertile oasis in the desert. It is 337 miles distant from Seleucia on the Tigris, 203 from the sea, and 176 from Damascus. The city attained to its greatest grandeur under the rule of Odenatus and Zenobia, but it was besieged and taken by the emperor Aurelian, and Zenobia was led captive to Rome, where she formed part of the display in his triumph.

Zenobia, widow of Odenatus, had been permitted by Gallienus to participate in the title of Augustus, and had extended her sway over the greater part of Asia Minor, Syria, and Egypt. The army of Aurelian encountered the forces of Zenobia on the banks of the Orontes, not far from Antioch, and drove the Palmyrenes from their position. They retreated to Edessa, where they were a second time defeated in a bloody battle, and compelled to fall back on Palmyra, followed by Aurelian, who invested the city. Zenobia was taken prisoner in attempting to escape into Persia, and, after a long defence, Palmyra fell. Aurelian then set out on his return to Italy, and had reached Byzantium when tidings overtook him that the Palmyrenes had revolted, murdered the governor and Roman garrison, and proclaimed a relation of Zenobia Augustus. He immediately turned back to Palmyra, which he entered unopposed, massacred the whole population, and razed the city to the ground, leaving orders, however, to restore the temple of the sun, which had been pillaged by the soldiers. While yet in Mesopotamia, it became known that Egypt had risen in rebellion, and Aurelian hastened to Alexandria, put the usurper Firmus to death, and then returned to Rome. The temple of the sun at Tadmor is on a grander scale than that at Balbec.

TADPATRI, a town in the Bellary district of the Madras Presidency, built about the 15th century. It contains a pagoda dedicated to Rama, and another to Chinturaya, both of them elaborately decorated with sculptures representing the legendary histories of Rama, Krishna, and others.

TAEI, a coin of China, value about forty pence; 100 or 110 go to a dollar. Also a weight = 1½ ounce. The tsau-ping ranges from 94 tael 4 mace to 106 tael 4 mace.

TÆNIS BLECHNOIDES, the tapeworm fern of Tenasserim, so called from the resemblance of the line of sori to a tapeworm.—*Mason*.

TAE-PING, native Chinese, as distinguished from the Tartar ruling race.

TAE-TAN. CHIN. The altar of burnt-offering.

TAFI. When Arabs wish to cool the skin after a journey, they wash with a kind of clay called tafi, or with a thin paste of henna, and then anoint the body with oil or butter.—*Burton's Mecca*, i. p. 255.

TAFSIR. ARAB. Ilm-ut-Tafsir, or the exposition of the Koran. Several Tafsir are known all over the modern world. The smaller one is called Jalalani, or the two Jalal, i.e. the joint work of Jalal-us-Siyuti and Jalal-ul-Maballi, and fills two stout volumes octavo. The larger is the exposition of Al Baizawi, which is supposed to contain the whole subject. Some few divines read Al Khazin.—*Burton's Mecca*, i. p. 156.

TAGAL, dry rice cultivation, equivalent to the Malay muah.

TAGALA, a language of Luzon island.

TAGARA is mentioned in the Periplus as a very great city about ten days' journey to the east of Baroach, producing ordinary linen. Its site is now unknown, but it became the capital of a line of kings of the Rajput family of Silar, with whom the ruler of Kalian, near Bombay, in the 11th century, and of Parnala, near Kolhapur, in the 12th, were proud to boast of their connection.—*Elphin*, p. 228.

TAGETES ERECTA. Genda, HIND. The marigold. Its handsome yellow flower is used by the Hindus in making garlands to decorate their idols, and it may be seen on the gates of churches and houses of Europeans at Christmas and New Year's day. *Tagetes lucida*, the African marigold, is common in all Indian gardens, and readily grown from seed.

TAGETES PATULA. Linn.
Genda, BENG. | Gul-jafari, HIND., PERS.
French marigold, ENG. | Banti chettu, . . . TEL.

This marigold is grown in most of the gardens of India, and the flower is worn by Hindu women in their hair.—*Gen. Med. Top.*; *Thomson's Records of Gen. Science*, ix. p. 303; *Riddell*.

TAGHALAQ, a dynasty that ruled in India from A.D. 1321 to 1412. Juna Khan, who took the title of Muhammad Taghalaq, ruled from A.D. 1325 (A.H. 725) to A.D. 20th March 1351 (A.H. 752). His father, Ghaiaa-ud-Din Taghalaq, was killed by the fall of a wooden pavilion which Juna Khan had erected. Juna Khan was the most eloquent and accomplished prince of his age. He was regular in his devotions, and conformed in his private life to all the moral precepts of his religion. In war he was distinguished for his gallantry and personal activity. He established hospitals and almshouses on a liberal scale, and distributed gifts and pensions to his friends and to men of learning with a profusion never before equalled. But his whole life was passed in the pursuit of visionary schemes, and with a total disregard of the sufferings of his subjects.

He bought off an army of Moghuls, under Timurshin Khan, by an immense contribution; he completed the reduction of the Dekhan; he resolved to conquer Persia, but his immense army dissolved for want of pay, and carried pillage and ruin to every quarter. He assembled 100,000 men to conquer China, but when they had crossed through the Himalaya, they were met by a great army of Chinese, and scarcely a man returned. He tried to introduce paper money with copper tokens, but it failed. More than once he moved out his army over a great tract, as if for a hunt, and ordered it to close in to the centre, and all within were slaughtered like wild beasts. His nephew Muhammad, governing in Malwa, rebelled, but was pursued into the Dekhan, taken, and flayed alive. Malik Bahram, his father's friend, rebelled in the Panjab, but was defeated and slain. Bengal and the Coromandel coast revolted, and were never again subdued. His army was attacked by a pestilence at Warangal. The Hindu kingdoms of Karnata and Telingana were re-established, A.D. 1344 (A.H. 744), and the governor of Sambal, he of Beder, also a Moghul chief, and others in the Dekhan and Gujerat, rebelled. He at length died at Tatta, on the Indus, A.D. 20th March 1351 (A.H. 21 Maharram 752). His tomb stands by itself, surrounded by an artificial

lake. Thrice during his reign he changed his capital from Dehli to Deogiri, to which he gave the name of Dowlatabad, and compelled the people to remove. Ibn Batuta visited his court A.D. 1341. At the close of the 14th century, during the minority of Mahmud, the last Taghalaq king, Gujerat, Malwa, and Juanpur proclaimed their independence, the last kingdom being the Ganges country from Bengal to the centre of Oudh. After the invasion of Timur (A.D. 1398), other provinces threw off the yoke, and the territory of Dehli was reduced to a few miles near the capital. New Dehli is still known to the people as Taghalaqabad.—*Elphinstone's India*, pp. 350-414; *Tr. of a Hindu*, ii. p. 214.

TAGHALIA. PERS. A difficult game on horseback. When at full gallop, a small stick is thrown in advance on the ground in such a manner that after several rebounds it rises to the off side of the horse, and is recaptured.

TAGHAR. PERS., TURK. A large sack, of which horsemen carry a pair, slung over the horse, to contain provender. According to Timkowski, it contains about 4 poods, or 140 pounds of flour.—*Meninski*; *Yule, Cathay*, i. p. 153.

TA-GOUNG, the ancient capital of the Burmese empire.

TAGOW, a valley in the Kohistan of Kabul, now held by the Safi, an Afghan tribe. In contains many ancient remains, and numerous coins have been found in them. See Kohistan.

TAHBAND. HIND. A loongee, an article of dress; a cloth worn on the loins; literally lower. It is in the form of a sheet tied round the waist and covering the legs.

TAHFAT-ul-MAJAHIDIN, written by Shaikh Zain-ul-Abidin, gives an account of the proceedings of the Portuguese against the Muhammadans from A.D. 1498 to 1583.

TAHIR, the principal supporter of Mamun, son of Harun-ur-Rashid, in his claims to the khalifat against his brother Amin. The Tahir dynasty is known as the Tahiridi; they ruled in Khorasan from A.H. 205 (A.D. 820-821) to A.H. 248 (A.D. 862-863). Abdallah, A.D. 830, had Kerman, Seistan, Herat, and Kabul under his sway. Tahir remained in Khorasan virtually independent until they were deposed by the Sofarides.

TAHITI, the Otaheite of Captain Cook, is the largest of the six Georgian islands. Of all the islands in the Pacific, it is second only to Oahu of the Sandwich group. Twenty-four varieties of the bread-fruit tree grow in the island. The Tahiti is one of the insignia borne by men of rank.

TAH-KHANA. HIND., PERS. An apartment under ground or not exposed to the sun.

TAHLIL. ARAB. Repetition of the Muhammadan creed. See Takbir.

TAHLIL, a shrill noise made by the women of Arabia. It is a combined motion of the tongue, throat, and hand vibrated rapidly over the mouth. When an Arab or a Kurd hears the tahlil, he almost loses his senses through excitement. It is like a very quick repetition of the word el (or lel, lel, lel, lel). Between Kazerun and Busbahr, the women, chiefly of Arab descent, use it to welcome a stranger as an expression of joy; they use it also during the mournful ceremony of a funeral.—*Ouseley's Tr.* i. 310; *Layard, Nineveh*, i. 120.

TAHSIL. HIND. A revenue subdivision of a district presided over by a tahsildar, whose primary

duty is to collect revenue, etc., but who, in the Panjab, is vested with civil and magisterial powers; also the office or building in which the business of a tahsildar is transacted. Tahsildar, a sub-collector or officer in charge of a tahsil.

TAI. TAM. The 10th Tamil month (January—February).

TAI, a highly-esteemed fish of Japanese seas.

TAI, a powerful and ancient Bedouin tribe near Mosul. They came from Yemen to the Tigris. They are rich in live stock, and sell their wool at Mosul. Hatim, an Arab shaikh of this tribe, is famed for his generosity. He lived before Mahomed, but his son Adi accepted Mahomed, and became one of the Companions. It is related of Hatim that the Greek emperor sent a person to ask Hatim for a famous horse. Unaware of the object of the visit, Hatim, to do his guest honour, had slaughtered that very horse.

TAI, the Ahom language of the Tai family, the old conquerors of the valley of Assam. It is now spoken only by a few priests.—*Cust.* See Siam.

TAIFAH. ARAB., PERS. A nation, a tribe. The primitive tribe of the Afghans was called Taifah, a word which corresponds with that of nation. The first division of this primitive tribe are called 'firqa,' a tribe; and the subdivision of this, 'tirch' or branches. Taifah, a troop of dancing girls, a company.—*Bunsen; Chesney; Lath.*

TAIFI of Kābul, etc., unripe apricots dried; called in the Panjab khishta.

TAI-TSUNG, emperor of Chiua, is said to have dismissed three thousand women from the imperial establishment. He was only 23 years of age when he subjugated the empire. He was proclaimed emperor in A.D. 627, and was remarkable for his philosophical toleration, and his numerous relations with foreigners. The reception he gave to Olopen was gracious. In A.D. 629, he had subjugated all the Tartar kings, who with common consent conferred on him the title of Celestial Emperor. He died A.D. 649, at the age of 45, after having reigned 22 years.—*Ch. Anc.* p. 286, in *Yule's Cathay*, i. p. 1; *Huc's Christianity*.

TAI-WU, emperor of China (B.C. 1634). In his reign, ambassadors accompanied by interpreters, and belonging to 76 distinct kingdoms, are reported to have arrived from remote regions at the court of China.

TAI YAONG, the great male star of the Chinese.

TAJ, a crown, a circular head-dress in Central Asia.

TAJAK, an Iranian race met with in largest numbers in the khanate of Bokhara, and in Badakhshan, but many have settled in the towns of Khokand, Khiva, Chinese Tartary, and Afghanistan. Tajak is a term of doubtful origin, rather loosely applied to the settled race in the countries ruled over by the Turk, Uzbek, Hazara, Afghan, and Brahui, where the Turki, Pushtu, Brahui, and Baluchi languages are spoken, but whose vernacular language is Persian. The terms Tajak and Parsivan are indeed used indifferently both in Afghanistan and Turkestan to the race whose vernacular language is Persian.

Tajak is applied by the Uzbek and Armenians to the Iranian population in Khiva, Bokhara, Khorasan and Badakhshan. In Persia proper, the Tajak is so termed in contradistinction to the Iliyat, and throughout Persia the term is applied

to a cultivator, to distinguish him from an inhabitant of towns. On the Oxus, a Tajak is used as opposed to an Uzbek; in Afghanistan, as opposed to an Afghan or Hazara. The term for this race in Bokhara is Sart; in Afghanistan, Dehgan; in Baluchistan, Dehwar. On the Kābul river, they are called Kābuli. In Seistan, the mass of the population is Tajak, and many of them dwell in reed huts on the great lake, and live by fishing and fowling. The Tajak of Badakhshan possessed that country before the inroads of the Uzbek and Turk. They are purer Iranian than other Tajak. They are a wild race, living in the little mountain glens, in villages surrounded by gardens. The Tajak of Badakhshan are not so handsome as the men of Chitral, their dress is like that of the Uzbek.

The Tajak of Bokhara have occupied the country from unknown times, and were forcibly converted to Muhammadanism before the close of the 1st century of the Hijira. In Bokhara they are a cowardly, avaricious, untruthful, faithless race; tall, fair men, with black eyes and hair. Khanikoff attributes to the Tajaks the greatest purity of race. Rawlinson allows this distinction to the Vakhani, the wild mountaineers of Badakhshan. In Central Asia itself, the Galtcha are regarded as the oldest Iranians of the land.

The term is from Taj, a crown, the fire-worshipper's head-dress; but the Tajak does not so style himself, and regards the term as derogatory. The Tajak is given to agriculture and trade, but fond of literary pursuits and polish, and it is owing to their preponderance in Bokhara that that city has been raised to the position of the headquarters of Central Asiatic civilisation, for there, from pre-Islamic times, they have continued their previous exertions in mental culture, and, notwithstanding the oppression which they have sustained from a foreign power, have civilised their conquerors. Most of the celebrities in the field of religious knowledge and belles-lettres have been Tajak; and at the present day the most conspicuous of the Mullah and Ishan are Tajak, and the chief men of the Bokhara and Khiva court are Tajak. Vambery considers the Tajak and Sart identical, but he recognises that in their physiognomic peculiarities the Sart differs greatly from the Tajak, being more slender, with a longer face and a higher forehead; but these changes he attributes to frequent intermarriages between Sart men and Persian slaves. In Central Asia, the warrior, the shepherd, the priest and the layman, youth and old age, equally affect poetry and reciting of tales. The literature of the Muhammadans or settled nations, brought from the south, is filled with exotic metaphor and illustration. In Khiva, Bokhara, and Khokand, the Mullah and Ishan have written much on religious subjects, but their mystical allusions are beyond the reach of the people. The Uzbek, the Turkoman, and Kirghiz esteem music as their highest pleasure, and often break out in song, singing soft minor airs. The Uzbek poetry on religious subjects is exotic, derived from Persian or Arabic sources. The Tartar compositions are tales, and relate to heroic deeds, similar to the romances of Europe.—*Vambery's Bokhara*, pp. 8, 338; *Elphinstone's Caubul*; *Ferrier's Journey*.

TAJ MAHAL, a mausoleum erected at Agra by the emperor Shah Jahan over the remains of his

nificance beside the Tak-i-Kesra. The city walls, which appear to have been of very great thickness, may also be traced to a considerable distance on both banks of the river. The names of Seleucia and Ctesiphon are very frequently confounded by the early Christians writers; but the cities stood on opposite sides of the river Tigris, and were built at different periods.—*Mignan's Tr.* pp. 58-73; *Layard, Nineveh*, i. p. 242; *Kinnear's Memoir*, pp. 253, 273; *Porter's Tr.*; *J. B. Fraser's Tr.* p. 3.

TAKIN is the *Budorcas taxicolor* of Blyth. It is a large, massive animal, denominated Takin by the Mishmi, and Kin by the Khamti. It is one of the group of bovine antelopes. Its nearest affinity is probably to the gnu; but it has various points of stronger connection with musk oxen, and in a natural system its place would probably be assigned between those two types. The Takin tenants the easternmost part of the Himalaya, adjacent to Yunnan, Sze-chuen, and Kham, more especially in the upper or alpine region, but found also in the central region, though never in the lower region, and it probably extends its range from the Himalaya proper to the proximate mountains of China and Tibet. It is described as of high courage and great ferocity, so that it cannot be taken alive, and is killed by the natives with much trouble and some risk. It is said to be very gregarious, though old males are sometimes found solitary. The Takin is much larger than the Caprine antelope (Thar) of the Himalaya.—*Beng. As. Soc. Jour.*, 1850.

TAKIYAH, a place where darveshes have rooms and perform their devotions. Takia-Nishin is a darvesh or fakir, literally one who sits, in a fakir's standing-place.—*Burton's Mecca*, i. p. 124.

TAKKA, a Turanian race, the earliest recorded inhabitants of the Rawal Pindi district, about Deri Shahan or Shah Deri village, in lat. 33° 17' N., and long. 72° 49' 15" E. The Takka originally held all the Sind-Sagar Doab, and from their name General Cunningham derives that of Taxila or Takkasila, which Arrian describes as a large and wealthy city, the most populous between the Indus and the Hydaspes (or Jhelum). The city stood a few miles to the north of the Margala pass, where several mounds still mark the sites of its principal buildings. Alexander rested his army at this point for three days, and was royally entertained by the reigning sovereign. The Chinese Buddhist pilgrim Fa Hian visited Taxila, as a place of peculiar sanctity, about the year 400 A.D. Again, in 630 and 643, his countryman and co-religionist, Hiwen Thsang, also made it a halting-place of his pilgrimage, but found the seat of government removed to Kashmir. The ruins of Taxila consist of six separate portions. The mound of Bir, close to the modern rock-seated village of Deri Shahan, abounds in fragments of brick and pottery, and offers a rich mine of coins and gems for the antiquary. Hatial, a fortified spur of the Margala range, probably formed the ancient citadel; it is enclosed by a ruined wall, and crowned by a large bastion or tower. Sir-Kap presents the appearance of a supplementary fortress, united with the citadel by a wall of circumvallation. Kacha-Kot possibly gave shelter to the elephants and cattle during a siege. Babar-Khana contains the remains of a stupa, which General Cunningham identifies with that of Asoka,

mentioned by Hiwen Thsang. Besides all these massive works, a wide expanse, covered by monasteries or other religious building, stretches on every side from the central city to a considerable distance.—*Cunningham*; *Imp. Gaz.*; *Dowson*.

TAKKEYAH. ARAB. Amongst Shiah Muhammadans, the outward observance of a faith with which the observer differs. This is a practice with Shiah and Khojah Muhammadans for concealing their religious views; the systematic concealment of everything which concerns their faith, history, customs, etc., the disclosure of which might be attended with unpleasant consequences.—*Burton's Scinde*, p. 412; *Mecca*, i. 124.

TAK-PO or Tak-poni, the country of the Tak. It is marked as Towang or Raj Towang in the ordinary maps, and lies in a line between Lhasa and Jorhat in Assam; enclosed within the great bend of the Brahmaputra, and overlies the N.E. part of Butan. Ken-pong is the province of Kong-bo to the E. of Tak-po.

TAKSHA, son of Bharata, and nephew of Rama Chandra, ruler of Gandhara, who resided at and probably founded Takhasila in the Panjab, the Taxila of Ptolemy.—*Dowson*.

TAKSHAK, according to Tod, are the Turshka race, one of the most extensive and earliest of the races of Higher Asia. They were Scythians; and from the time of the great war of the Mahabharata, when we find them already in the north-west, they extended their conquest in India; and as they had a serpent for their national emblem, they were known as the Takshak or Serpent race. Their chief invasion of India, under their leader Sehesnag, occurred about 600 B.C. They extended their conquests to the Magadha empire of Behar, the throne of which was held by the Nag or Serpent dynasty for ten generations, and a branch of them, the Nagbansi chieftains of Ramgarh, Sirguja, have (*Tr. R. A. Soc.* ii. p. 563) the lunettes of their serpent ancestor engraved on their signets in proof of their lineage, while the capital and district of Nagpur are called after their name. The Vayu and Matsya Purana books call the Sehesnaga, Kshatra-Bandhee, which may designate, says Wilson (*Vishnu Pur.* p. 467), an inferior order of the Kshatriya. The great invasion above mentioned was, according to Colonel Tod's supposition, nearly contemporaneous with the appearance of the 23d Buddha, Parinirvana, whose symbol is that of the race he accompanied, and hence he is called Suhus Phun, 'the thousand-hooded.' It is supposed that the Brahmins made converts of some powerful branches of these new sectaries, and that it is to them the term Agnicula (fire race) is applied, as signifying their spiritual regeneration by the element of fire. If so, the Takshak must be the progenitors of the most distinguished tribes of Rajputs, yet no vestiges are now to be found of the original name Tak, or Takshak, though it is recorded amongst the thirty-six royal races. Elphinstone opposes the doctrine of a Scythian admixture with the Rajputs, but there is much in Indian history which could not well be explained without the admission of an incorporation of some northern family; and even he is disposed to concede the point with regard to the Jat. Takshak is still one of the Grama Devata, or village gods, of the Bhagulpur district. It was a converted Tak Rajput who established the independent dynasty

of Gujerat. One Takshak race entered Hindustan, led by Sehesnag, from Sehesnag-desa, who ascended the Pandu throne. The dynasty lasted 860 years, and terminated with Bykyat. Another Takshak dynasty of ten princes commenced with Chandragupta Mauri, but lasted only about 137 years. Chandragupta, the supposed opponent of Alexander, was a Mauri, and in the sacred genealogies is declared of the race of Takshak. The ancient inscriptions of the Pramara, of which the Mauri is a principal branch, declare it of the race of Tusta and Takshak, as does that now given from the seat of their power, Chitore. The term Nag, Tak, or Takshak are regarded by Colonel Tod as synonymous. Sehesnag-desa he considers to be synonymous with the abode of the ancient Scythic Tachari of Strabo, the Tak-i-uk of the Chinese, the Tajak of the present day of Turkestan.—*Elphinstone's India*; *Tod, Rajasthan*, i. p. 35; *Jo. As. S. vi.* p. 677.

TAKSILES. According to the Greeks, the chief who joined with Alexander on his approach to the Indus. Colonel Tod (i. p. 105) thinks the name is Tak-Es, the lord of Tak. The Tak were one of the republican races whom Justin styles banditti (Justin, xv. 4).—*'Contractis latronibus Indos ad novitatem regni sollicitavit.'* But the Arattas, who were the dominant people of the Eastern Panjab, are never mentioned in the Mahabharata without being styled robbers (Lassen, *Pentapota Indica*)—*'Aratti profecto latrones,'* and *'Bahici latrones.'* The Sanskrit name is Arashtra, the 'kingless,' which is preserved in the Adraistæ of Arrian, who places them on the Ravi. They were the republican defenders of Sangala or Sakala, a fact which points to their Sanskrit name of Arashtra, or 'kingless.' But though their power was then confined to the Eastern Panjab, the people themselves had once spread over the whole country—*'Ubi fluvii illi quini . . . ibi sedes sunt Arattorum'* (Lassen, *Pentapot Indica*, from the Mahabharata). They were known by the several names of Bahika, Jartika, and Takka, of which the last would appear to have been their true appellation, for their old capital of Taxila or Takka-sila was known to the Greeks of Alexander, and the people themselves still exist in considerable numbers in the Panjab Hills. The ancient extent of their power is proved by the present prevalence of their alphabetical character, which, under the name of Takri or Takni, is now used by all the Hindus of Kashmir and the northern mountains, from Simla and Subathu to Kabul and Bamian. On these grounds, Major Cunningham identifies the banditti of Justin with the Takka or original inhabitants of the Panjab, and assigns to them the honour of delivering their native land from the thralldom of a foreign yoke. This event occurred most probably about B.C. 316, or shortly after the march of Eudemos to the assistance of Eumenes. See Tak; Takshak.

TAK-ul-BOSTAN is 1½ parasang from the town of Kermanshah. There are here magnificent bas-reliefs, splendid works of art, executed by command of Bahram IV., the Varanes IV. of Roman history, who lived at the commencement of the fifth century, and who, as it is said, was the founder of Kermanshah.—*Ferriér, Journ.* p. 27.

TAL. HIND. Cymbals used by devotees, and frequently an accompaniment to the taifas or bands of dancing girls of India.

TAL. BHOT. A lake.

TALADDU, Tamil poems, describing the infancy of the gods. They are sung to the gods, when, at annual festivals, they are swung in cradles; mothers also repeat them to their children. Several of them are indelicate, others are mere jingles. One of them, known as Chanchadu to all English mothers in Madras for its endearing epithets,—Chanchadu, baby, Chanchadu, maru paravay Chanchadu; Koil para pavay Chanchadu, mara paravay Chanchadu. Swing, baby, swing! swan-dove, swing! house-pigeon, swing! peacock, cuckoo, swing! cassia flower, swing! standing - lamp, swing! temple - dove, swing! swan-parrot, swing! The ordinary Taladdu are nursery rhymes.

TALAING or **Mon** is the name of the natives of Pegu. The Burmese call them Talaing. The Siamese appellation is Ming-mon. Part of this population dwell in the delta of the Irawadi, Mon being the name used by themselves for the native populations of Pegu, Martaban, Moulmein, and Amherst; and the same names Mon or Talaing are given to the vernacular language of Pegu. The alphabet, like that of the Thay and Burmese, is of Indian origin, being essentially that of the Pali form of speech, and, like all alphabets of this kind, it embodies a Buddhist literature. The Mon language is quite unintelligible to a Burmese or Siamese. *Ta-laing Maha-radza-weng*, chronicles of the kings of Pegu.—*Latham's Eth.*

TALAK. ARAB. A divorce. Talak-i-byen, the husband's once saying to his wife, 'I have divorced you.' Talak-e-rujace, the above repeated twice. Talak-e-mootluqqa, ditto thrice. The last mentioned is irrevocable, and for reunion there must be remarriage. The husband can recall the other two.

TALAKADU, a town in Mysore, on the left bank of the Cauvery, which runs past it. On one bank of the river stand a number of Saiva temples which have been almost wholly overwhelmed by sand. On the other bank, however, is one, the legend concerning which is thus told by Dr. Buchanan:—*'A mendicant came one day to Talakadu, intent on making an offering to Mahadeva or Iswara. The temples dedicated to that idol were, however, so numerous that he was much at a loss how to procure an offering for each, so as to avoid giving offence to any idol that might be omitted. With his whole means, which were very slender, the holy man purchased a bag of peas, and offered one at each temple, but all his peas were expended, and one idol still remained to which no offering had been made. Of course it was highly offended at the preference given to the others by a person of his holiness; and to avoid their insolent boasting, it transported itself across the river, where it now stands at Malingy, while its former companions are buried in sand.'* Another legend is, that the last rani of Talakad imprecanted a curse upon the city 'that it should become sand,' and threw herself into the Cauvery. At the present day, the buildings of the old city are completely buried beneath hills of sand, stretching nearly a mile in length. These sandhills advance at the rate of about 10 feet a year, and are said to cover about thirty temples, of which the topmost pagodas of two still project above the surface. The temple of Kirti Narayana is occasionally opened, with great labour, suffi-

ciently to allow of access for certain ceremonies.—*Imp. Gaz.*

TALA - KAVERY, source of the Cauvery river, in the Brahmagiri range of the Western Ghats in the Coorg province, lat. 12° 23' 10" N., long. 76° 34' 10" E. A Hindu temple here is annually frequented by many pilgrims. The chief bathing festival is in Tala-mass (October—November), when, according to local legend, the goddess Ganga herself resorts underground to the all-purifying stream. On this occasion every Coorg family sends a representative, and the total attendance is estimated at 15,000. The temple is endowed by Government with £232 a year.—*Imp. Gaz.*

TALAPOIN. This order of Buddhist ascetics or monks is known in China, Japan, Ceylon, Siam, and Tibet under different names, conveying nearly the same meaning, and expressing either the nature or the object of their profession. Talapoin is from the Pali, Talapat meaning the leaf of a palm tree, but applied by the Siamese to designate the large fan made of palm leaves, set in a slender wooden frame, which the Talapoin carry with them when they go abroad. In Burma these monks are called Phoungye, which means Great Exemplar or Great Glory. The Buddhists in Ceylon, Burma, Siam, Tibet, etc., show great respect to the monks, who, in British and Independent Burma in their monasteries, are the chief educators of the Buddhist population. They are known to the Europeans in China and Japan as the Bonze, which is a corruption of Bussō, a Japanese word signifying a devout man, and they are the Lama of Tibet. In Burma, the fraternity is composed, 1st, of young men who have put on the Talapoinic dress, without being considered professed members thereof, or having hitherto passed through a certain ordeal somewhat resembling an ordination; they are called Shin. 2d. Of those who, having lived for a while in the community in a probationary state, are admitted professed members with the ceremonies usually observed on such occasions, whereby the title and character of Talapoin are solemnly conferred; they are denominated Pazin. 3d. Of the heads of each house or community, who have the power to control all inmates of the house. 4th. Of a provincial, whose jurisdiction extends over all the communities spread over the towns and villages of one province or district. 5th. Of a superior general, residing in the capital or its suburbs, called Hain Daw or Great Master, having the general management and direction of all the affairs of the order throughout the empire. In the kingdom of Burma, the keystone of the Talapoinic fabric is the Superlatively Great Master residing in the capital or its suburbs. His jurisdiction extends over all the fraternity within the realm of his Burmese Majesty. In Tibet, the order is found existing in greatest numbers under the fostering care of the Great Lama, or high priest, who combines in his own person the regal as well as the sacerdotal dignity and power. In the city of Lhasa, a pontifical court, an elective sacerdotal chief, and a college of superior Lamas, impart to the order dignity, decency, respectability, and stability, which ensure its continued existence, and more or less extend its influence over its members living in distant countries, ruled by a foreign sovereign. Like the Christian monk, the Talapoin bids a farewell to the world, wears

a particular dress, leads a life of community, abstracts himself from all that gives strength to his passions, by embracing a state of voluntary poverty and absolute renunciation of all sensual gratifications. He aims at obtaining, by a strict observance of the law's most sublime precepts, an uncommon degree of sanctity and perfection. All his time is regulated by the rules of his profession, and devoted to repeating certain formulas of prayers, reading the sacred scriptures, begging alms for his support, etc. These features of exterior resemblance common to institutions of creeds so opposite to each other, have induced several writers to pronounce that Catholicism has borrowed from Buddhism many ceremonies, institutions, and disciplinary regulations. Abbé Remusat, in his memoir entitled *Chronological Researches into the Lamaic Hierarchy of Tibet*, refuted this. Thus there exists in Japan, China, Cochinchina, amongst the Burmese, Siamese, Singhalese, and Tibetans, a religious order with a distinct and well-marked hierarchy, constitution, and regulations, providing for the admission of members, their occupations, duties, obligations, and their mode of life, forming as it were a compact, solid, and perfect body, that has subsisted almost without change during twenty-five centuries, and survived the destruction of kingdoms, the fall of royal dynasties, and all the confusion and agitation produced by political commotions and revolutions. A Buddhist on becoming a member of this holy society, proposes to keep the law of Buddha in a more perfect manner than his other co-religionists. He intends to observe not only its general ordinances obligatory on every individual, but also its prescriptions of a higher excellency, leading to an uncommon sanctity and perfection, which can be the lot of but a comparatively small number of fervent and resolute persons. He aims at weakening within himself all the evil propensities that give origin and strength to the principle of demerits. By the practice and observance of the highest and sublimest precepts and counsels of the law, he establishes, confirms, and consolidates in his own soul the principle of merits which is to work upon him during the various existences he has as yet to go through, and gradually lead him to that perfection which will qualify him for, and entitle him to, the state of Neiban, the object of the ardent desire and earnest pursuit of every true and genuine disciple of Buddha. The life of the last Buddha, Gautama, his doctrines as well as his example, he purposes to copy with scrupulous fidelity, and to follow with unremitting ardour. Such is the great model that he proposes to himself for imitation. Gautama withdrew from the world, renounced its seducing pleasures and dazzling vanities, curbed his passions under the yoke of restraint, and strove to practise the highest virtues, particularly self-denial, in order to arrive at a state of complete indifference for all that is within or without self, which is, as it were, the threshold of Neiban.—*Jo. Ind. Arch.*, 1850; *The Burnan and his Notions*.

TALARI. KARN., TEL. The village bailiff, executioner, and watchman; the office was hereditary.

TALAR-i-TIMUR, the reception hall of Timur, in Samarcand, contains the Kok-tash or coronation stone.—*C. As.* See Samarcand.

TALAUMA HODGSONI. *Hook.* A magnolia

growing on Tonglo, in Sikkim, at an elevation of several thousand feet, also in Nepal and Khasaya. It is a large evergreen tree, with very dense foliage, and deep shining leaves 12 to 18 inches long; most of its flowers drop unexpanded from the tree, and diffuse a very aromatic fragrance; they are nearly as large as the fist, the outer leaves purple, the inner pure white. Its wood is grey, very soft and even-grained. *T. mutabilis* is a shrub of Tenasserim, and *T. Rabaniana*, *Hooker*, is a large tree of the Khasaya Hills and Burma, and its wood is sometimes used for furniture and planking.—*Hook. H. J. i. p. 163.*

TALAWA. SINGH. Open park-like meadows in the lowland forests of Ceylon, varying in extent from one to one thousand acres.

TALC.

Kobub-ul-arz, . . . ARAB.	Minirum, . . . SINGH.
Yun-mu, . . . CHIN.	Appracum, . . . TAM., TEL.
Abruk, Abraha, . . . HIND.	Tulk, . . . TURK.

This mineral is a hydrous silicate of magnesia; it occurs crystallized and massive. Massive talc reduced to powder is the boot powder of shoemakers. Talcose slate resembles mica slate. Talcose rocks are the gold rocks of the world, and contain the topaz of Brazil, euclase, and other minerals.—*Eng. Cyc.; Tomlin.*

TALCHER, a small Native State in Orissa, with an area of 399 square miles. Coal was discovered here in 1850 by Mr. Turnbull, an officer of the Madras commissariat, and iron and lime also occur near the Brahmany river; gold likewise is washed for. The coal has been reported as not likely to be profitably worked at present. The Hindu population consists of Chasa, Gaur, and Brahmans. The aborigines are Saora, Gond, Taala, and Pana. See Geology.

TALDANDA, a canal in Orissa, 52 miles in length, connecting the town of Cuttack with the main branch of the Mahanadi river. It is intended both for navigation and irrigation.

TALÉGALLA LATHAMI, the brush-turkey of the family of the Megapodes (Megapodidae). These birds construct a mound of earth, leaves, grass, sand, or other materials capable of generating and retaining heat, in which the eggs are buried by the birds, and carefully watched until the young birds are matured, and issue forth from this ecclatation of nature, stout, strong, and so fully feathered as to be capable of flight on the second or third day of their existence. On the young bird chipping out of the egg, it remains in the mound for at least twelve hours without making any effort to emerge from it, being at that time almost as deeply covered up by the male as the rest of the eggs. On the second day it comes out, with each of its wing-feathers well developed in a sheath, which soon bursts, but apparently without inclination to use them, its powerful feet giving it ample means of locomotion at once. On the third day the nestling is capable of strong flight.

TALENT OF BABYLON corresponded with a Babylonian cubic foot of water at the mean temperature of that country. A talent was divided into 60 minæ, a mina into 60 shekels. Half a silver shekel was a drachma, and this was the ancestor of the British shilling.

TAL-GHAT. HIND. A geographical term in the Peninsula for the low-lying level ground below the ghats of the eastern and western sides.

TAL-GHAT, in lat. 19° 40' N., long. 73° 38' E., in the Dekhan, a principal pass on the road from Bombay to Nasik. Top of the ghat is 1912 feet above the sea, and the top of the hill near the ghat is 3241 feet.

TALI, a name in the Eastern Archipelago for the treble fanam formerly coined at Madras, the 24th part of the Spanish dollar.

TALI, in Peninsular India, a piece of gold tied by the bridegroom round his bride's neck at the time of marriage. It remains till she becomes a widow, and is then removed by the husband's relations. The tali are not all of the same form. In some castes it is a small round plate of gold, without stamp or figure on it; in others it is a tiger's tooth; others are hammered by the goldsmith without any precise form. Many castes have them flat and oval, of two small pieces which separate, and with hieroglyphics representing the god Puliyar or the lingam.—*Sonnerat's Voyage*, p. 92. See Mangala Sutra.

TALIB. PERS. An inquirer or wisher, a pupil, a seeker, from Talb. Talib-ul-Ilm, a learner, a pupil.

TALIF-i-SHARIF, a Persian work on medicine, translated by Dr. Playfair.

TA-LI-FU, a lake in China, 7090 feet above the sea.

TALIKAN, a city of Tukharistan between Balkh and Merv, three days' journey from the latter. There is another town of the same name east of Kunduz. The Talikan of Tukharistan is the one most frequently mentioned, and it is generally coupled with Hariab, a city of Guzjan, west of the Oxus, three days' journey from Talikan, three from Shaburkan, and six from Balkh. Yule, however, says there were, in fact, three places so called, that in Badakhshan, that in Khorasan, and a third in Dailam, the hill country adjoining Kuzbin.—*Yule, Cathay*, i. p. 253; *Elphinstone's Caubul*, ii. 221, 240.

TALIKOT, a town in the Kaladgi district of the Bombay Presidency, 60 miles N.E. of Kaladgi town, in lat. 16° 28' 10" N., long. 76° 21' 10" E. A battle was fought here on the 25th January 1565, in which the Hindu empire of Vijayanagar was overthrown by a confederacy of the Muhammadan kings of the Dekhan, the Adal Shahi of Bijapur, the Kutub Shahi of Beder, and the Nizam Shahi of Ahmadnagpur. The Hindu power in Southern India was completely broken by the battle; but within a hundred years a great Hindu revival commenced, which, under the form of the Mahratta Confederacy, was destined to break up the Moghul empire in India.—*Imp. Gaz.*

TALI-NANAS. MALAY. Cordage material obtained from the leaf of the pine-apple plant. Tali Pinding, a waistbelt worn by the natives of the Archipelago. They are manufactured by the Arufura of New Guinea or Seram, who manufacture various textile fabrics from native fibres, as a band or cincture for fastening the sarong of women. Tali Rama, MALAY., China grass. Tali-tarus, a fibre of Singapore, made into sewing twine.

TALIPOT or Fan Palm, *Corypha unbraculifera*, belongs to a genus of plants of the order Coccotheca, and is met with in Ceylon, Malabar, Java, and the Moluccas. Its large leaves (fronds) are used for thatching, basket-making, and other handy work. The leaves are also used for native books, like the palmyra leaves, and are written on with

an iron style, and for making the huge fans with the petioles attached. It has a stem of 50 to 70 feet high, with large fan-shaped plaited leaves composed of some 40 to 50 segments. The *Corypha umbraculifera* is known in Tamil as the *Coddapanna*, and in Hindustani as *tali* or *tadi* tree, *tali-pat* meaning leaf of the tali. The seeds or nuts are made into ornaments, and sometimes, when well polished and coloured red, pass for coral. The trunk furnishes a species of pith which is pounded into flour and baked into cakes, and eaten with much relish by some natives.—*Seeman*; *Shortt*.

TALISMAN. Talsam, ARAB. Talismans or the doctrine of signatures took their origin from a belief that medicinal substances bore upon their external surfaces signs of the properties or virtues they possessed. It is a term from the Arabic Talsam, and is applied to mystical characters, and also to seals, images, etc., upon which such characters are engraved or inscribed. These characters are astrological, or of some other mystical kind. The purposes for which Talsams are contrived are various,—the preserving from enchantment, or from a particular accident, or from a variety of evils; another protects a treasure over which it is deposited.

TALKH. ARAB. Bitter; also of tobacco, etc., pungent, strong. Badam-i-talkh, Amygdalus amara. Kust talkh or Kut talkh, HIND., Aucklandia costus.

TALLI-TANDRI. TEL. Parents, father and mother; a respectful appellation for a superior.

TALLOW.

Shahum,	ARAB.	Pih,	PERS.
Suif,	FR.	Sebo,	PORT., SP.
Talg,	GER.	Salo, Toplenoe, . .	RUS.
Charbi,	GUJ., HIND.	Govapa,	SANSK.
Sevo,	IT.	Hurruk tail, . . .	SINGH.
Lamak chair, . .	MALAY.	Maattu kolupu, . .	TAM.
Lamak,	"	Passalum kowu, . .	TEL.

The fat of horned cattle and sheep. The tallow-gourd, *Benincasa cerifera*. Tallow tree, *Dryandra cordata*. Tallow tree of China is the *Stillingia sebifera*, the *Excoecaria sebifera*, *Sapium sebiferum*, *Croton sebiferum* of some authors. Its seeds are covered with a waxy substance, used in China for making candles. It has been introduced into the Doons of the N.W. Provinces and Kohistan Panjab. *Stillingia sebifera* is cultivated extensively in China, chiefly for the sake of the white sebaceous matter (vegetable tallow) enveloping the seeds. The tallow is separated by steaming the seeds in tubs with convex open wicker bottoms, placed over caldrons of boiling water. With trifling exceptions, the candles used by the Chinese in their religious ceremonies are made, by dipping, of the tallow of the *Stillingia*. The vegetable tallow of Borneo is said to be extracted from the nut of various species of *Dipterocarpus*, and melted in a gourd shell.

TALMUD, a historical and religious book of the Jews. In its two divisions of Halacha and Haggadah, it sums up the intellectual, social, and religious life of the Jews during a period of nearly a thousand years.

TALPA MICROURA. *Hodgson*.

<i>T. cryptura</i> , <i>Blyth</i> .	Short-tailed mole, ENG.
<i>Biyu kantyem</i> , БЮТ.	Pariam, LERCH.

The mole of Nepal and Darjeeling is $4\frac{1}{2}$ to 5 inches long, with a tail 3-16ths or less. The *Talpidae* family belong to the order *Insectivora*!

The species of restricted *Talpa* amount to five in number, viz. *T. Europæa*, *L.*, of Europe generally; *T. caeca*, *Savi*, of Italy and Greece; *T. moogura*, *Temminck*, of Japan; and *T. microura*, *Hodgson*, of Nepal, Sikkim, Bhutan, and the mountains of Assam. The fifth is *T. leucura*, of Cherrapunji, N. of Sylhet. It differs little from *T. microura*, except that the tail is considerably more developed, though much less so than in *T. Europæa*; and the tail is clad and tufted with white hairs, whence the name *T. leucura*. This animal also would seem hardly to attain the size of *T. microura*.

Talpa microura fur is a deep slaty blue, with canescent gloss.—*Journ. Ben. As. Soc.*, 1850; *Jerdon, Mammals*; *Blyth*.

TALPUR, a dynastic title of the last amirs of Sind, descendants from Mir Bahram Khan, chief of the Baluch tribe of Talpur, who succeeded Abdul Nabi of the Kalora dynasty in 1788. Their greatness arose of Futteh Ali Khan. The Talpur were an inferior hill clan of Baluch. Even when they became rulers of Sind, Muhammad Khan, the ruler of Kalat, was ready to go to war with amir Gholam Ali, Talpur, because the latter had the audacity to propose to a female of his family. The Talpur dynasty of Sind were replaced by the British in 1845. Talpur means date-tree town.

TALUK or Talukah. HIND. In India, a revenue district, more correctly written Taluqah. It has as its immediate superintendent a revenue officer styled a talukdar.

Talukdar, in Upper India, a large landholder possessing generally villages of which he is the sole owner, and other villages in which there are subordinate holders, and of which he is only the superior proprietor. In the Lower Provinces, the zamindar is the superior proprietor, and the talukdars are subordinate proprietors.

Talukdari, a form of land settlement adopted in Oudh, so framed as to secure village occupants from extortion, and exacting certain duties and responsibilities from the talukdars, who were confirmed in possession of everything they held at the time of the annexation in February 1856. In 1859 they received sunnuds or title-deeds.

TALUT and Jalut, Saul and Goliath. See Alliteration.

TALWAR. HIND. A sword. A wooden scythe used for cutting down plants for barilla burning. The ordinary curved sword has a slight curve and has a side guard.

TALWAR, a tribe in Mysore, who in the times of the Polygars contributed annually a ram and a pot of ghi.—*W*.

TAMAKU. HIND. Tobacco, Nicotiana. Tamaku Kashmiri, *Rhododendron campanulatum*. Ban tamaku, *Verbascum thapsus*. Chilassi tamaku, *Nicotiana rustica*. Gidar tamaku, *Heliotropium Europæum*, *Verbascum thapsus*. Kakkar tamaku, Kalkatti tamaku, Kandahari tamaku, *Nicotiana rustica*.

TAMANGGUNG, at a Malay court the minister of war and police.

TAMARICACEÆ, the tamarisk tribe of plants in the E. Indies, comprise the genera *Tamarix*, *Trichaurus*, and *Myricaria*. *Tamarix dioica*, *Roxb.*, and *T. Indica*, grow in India even in saline soil, and are good for protecting banks. Roxburgh describes the *Tamarix Indica*, identical with *T. gallica*, and *T. dioica* (jhou). *T. furax* occurs in the drier

parts of the Doab, and in the neighbourhood of Delhi, where it is called Asul or Atul as in Arabia. The other species are also found in the Peninsula. Tamarices are bitter and astringent. In Denmark they are used instead of hops for making beer, and in some parts of Europe as a tonic remedy. Galls are formed on the *T. furas*, and are called Sumrut-al-asul, also Chotee mue. Those on the jhou are named Sumrut-ul-turfa, or Buree mue. *T. gallica* of Mount Sinai is at certain seasons covered with a kind of sugary exudation, said by Ehrenberg to be produced by the puncture of the *Coccus maniparus*. It is called Arabian manna, or Gazanjabin; it is unknown in the bazars of Bengal, and is not produced in India.—*Roxb.*; *Royle*, pp. 213, 214; *Voigt*; *O'Sh.* p. 382.

TAMARIND.

Tamar-ul-Hind, . . . ARAB.	Tamarindus, . . . LAT.
Ma-gye, . . . BURM.	Neghka, . . . MALAY.
Cay-me, . . . COCH.-CHIN.	Tamr-i-Hind, . . . PERS.
Tamaris, . . . FR.	Amlika, Tintili, . . . SANSK.
Tamarinden, . . . GER.	Mahasiambala, . . . SINGH.
Amli, . . . GUJ.	Pulle, . . . TAM.
Tamarindo, . . . IT., SP.	Chinta-pundoo, . . . TEL.
Kamal, . . . JAV.	Demer Hindi, . . . TURK.

The tamarind tree, *Tamarindus Indica*, grows in the East and West Indies, the Eastern Islands, Arabia, and Egypt. It attains the height of 30 or 40 feet. Tamarind pods are from 3 to 6 inches long, and more or less curved. When ripe they consist of a dry, brittle, brown external shell, within which is the useful part, an acidulous, sweet, reddish-brown pulp penetrated by strong fibres. Within this is a thin membranous coat enclosing the oval brown seeds. The pulp, as analyzed by Vauquelin, contains citric acid, 9.40; tartaric acid, 1.55; malic acid, 0.45; bitartrate of potash, 3.25; sugar, 12.5; gum, 4.7; pectin, 6.25; parenchyma, 34.35; and water, 27.55. The fruit is used largely by the natives of India and Persia in making a sherbet or cooling drink, and also as a necessary ingredient in curries, to which it communicates a tartish flavour. The pulp allays thirst, is nutritive and refrigerant, and in full dose laxative. An infusion forms a very pleasant cooling drink, as does also tamarind whey. Infusion of senna with tamarinds is a useful laxative. Tamarinds are exported from India, packed in tins with or without syrup. Several varieties are distinguished, such as the red tamarind, the sweet tamarind, obtained from Persia; the dark tamarind, produced in Madras, one of the Eastern Islands; and the common or green tamarind, which is extensively produced throughout India. The red-coloured tamarinds are found in Gujerat, at Kheir on the Godavery, at Panderpur on the Krishna, and there are four trees in Madras. It is the best of the three Indian varieties. In preserving it for export, when the fruit is ripe, the shell or epicarp is removed, and the fruit placed in layers in a cask, boiling water being then poured over it. Another plan is to put alternate layers of tamarinds and powdered sugar in a stone jar. Tamarinds are exported both raw and preserved. Moochee bookbinders prepare a useful paste of the tamarind stones, which is called Passay, TAM., by first taking off the brown skin and then boiling them down till they become glutinous. Tamarind seed powder, boiled into a paste with thin glue, forms one of the strongest wood cements. Tamarind seeds yield an oil of a pale bright-coloured fluid, and

extremely light.—*Mad. Ech. Sur. Rep.*; *Ains.*; *Royle*; *M.C.*; *Faulk.*; *Tomlinson*.

TAMARIND FISH of Calcutta is made with the begti, *Lates calcarifer*, one of the Percidæ, preserved with vinegar and tamarind fruit. *Lates calcarifer* occurs in all the seas of the southern coasts of Asia, and is common in estuaries. It is greatly prized by Europeans. It is also made with white pomfret cut in transverse slices preserved in tamarinds. It is much prized as a relish. The begti is largely eaten in Bengal by Europeans.

TAMARINDUS INDICA. Linn.

T. occidentalis, Gertn. | *T. officinalis*, Hooker.

This is a very handsome tree, of slow growth, but attains a great size, with a very extensive shady head. It is met with in gardens, near old temples, and in avenues, where it has been planted. It is a graceful avenue tree, and grows throughout Hindustan, in the Peninsulas, in Burma and the Archipelago, but is rare in the Panjab.

In Burma it rises to 90 or 100 feet high, and 12 to 15 in circumference. The branches extend widely, with a dense foliage of bright green composite leaves, very much like those of the sensitive plant. The flowers are in clusters of a beautiful yellow, veined with red. The pods hang like beans, are longer, darker, and richer than the tamarind of the West Indies, and are preserved without the addition of syrup.

Its timber is remarkably heavy and hard, much like *lignum vitæ*, and is used generally for shivers in blocks, and such purposes. It is dark-coloured and durable, is often finely veined, the heart-wood of old trees resembling ebony. The tree is apt to be hollow in the centre, which prevents large slabs being obtained. It is used in the manufacture of sugar and oil mills, naves, mallets, rice-pounders, and for furniture and building purposes, but silica is often deposited in its stem, and carpenters are very unwilling to work it up, on account of the great damage it causes to the best tempered tools. It is valuable for brick and tile burning. The trees grow to about 7 or 8 feet in diameter at the butt, while that of the body of the tree is about 5 feet. This part is seldom more than 10 feet long when it branches out into curves of various dimensions. Several large trees of the West Indian red tamarind grow in the south of India, and the Editor largely distributed the seeds through the Madras Board of Revenue. The tree is valuable from the quantity of fruit it produces, which is used medicinally in cookery. In India, the shadow of the tamarind tree is deemed particularly injurious to vegetation, and for people to reside beneath this tree is supposed, in India, to be unhealthy; but in the northern part of the island of Ceylon, people build their houses beneath the tamarind tree as the coolest site.

TAMARIX ARTICULATA. Vahl.

Faras, . . . PANJ. | Arelei, . . . SIND.
A moderate-sized tree of the Panjab and Sind, which grows very rapidly, often 10 to 12 feet in girth, and 60 or 70 feet high. 60 lbs. per cubic foot. It is used for Persian wheels, small ornaments, and for charcoal. The bark and galls are used in tanning, and the galls also as a mordant.—*Stewart*.

TAMARIX CHINENSIS.

TAMARIX CHINENSIS, *Tatarinov*, is the San-chun-liu and Chih-ching of the Chinese.

TAMARIX DIOICA. *Roxb.*

Lai-jhao, . . . HIND. Ghazale, Pilohi, . . . PANJ.
Rgelta, . . . LADAKH. Rukh, Koan, . . . "
Zhao, Lai, Kachlei, PANJ.

Very common in Ajmir in the beds of rivers and near the great rivers of the Panjab. It is a very graceful shrub, with numerous small rose-coloured flowers in terminal drooping spikes. The Muki or tamarisk manna, used in confectionery, is said to be secreted by this plant in the cold weather. It grows up to 2500 feet in saline soil. It is a good plant for binding banks. The twigs are used for basket-making.—*Von Mueller; Roxb. ii. p. 101; Drs. Riddell, J. L. Stewart.*

TAMARIX ELEGANS, the Myricara elegans, *Royle*. It attains a height of 20 feet.—*Von Mueller.*

TAMARIX GALLICA. *Linn.*

T. Indica, <i>Roxb.</i>	T. gallica, var. T. Indica, <i>Ehrenb.</i>
T. spaeiroides, <i>Sav.</i>	
Turfa, ARAB, GUJ., PERS.	Koa, Rukh, . . . PANJ.
Tamarisk, . . . ENG.	Lainya of SALT RANGE.
Fersah, Fersah, Zhao, HIND	Prakke, Pakke, . . . TEL.
Pharwan, Pilohi, . . . PANJ.	
<i>Exudation</i> —Gasanjabin.	<i>Galls</i> —Sumrut-ul-turfa, Ma-in, Buree mue, HIND.

The Indian tamarisk is a glabrous greenish plant with stiff twigg branches, of considerable size in the Ajmir district, but the wood is there very inferior. In the Dekhan it grows abundantly as a small tree or shrub in the beds of many rivers, and affords shelter for all sorts of game. It is subject to the attacks of a cynips, which produces galls that possess astringent properties, and they are on this account used in medicine by the native doctors of India. The same property also renders them valuable in dyeing; baskets are made of the twigs, which are also used medicinally as an astringent. The galls are largely gathered in the Jhang, Gugaira, and Muzaffargurh districts, as also in Dehra Ghazi Khan district, where as much as 500 maunds are annually collected. The manna of Mount Sinai is produced from a variety of this plant, and consists of a pure sugar. It grows up to 10,600 feet on the Shayok in Ladakh, reaches 3 feet in girth and 30 high, and furnishes much of the steamer fuel in the Southern Panjab and in Sind; the wood is coarse-grained and often very red, and is used for Persian wheels, in turning, etc. In Ladakh, where wood is scarce, this is used for the handles of the sticks for polo or hockey on horseback. It adapts itself in the most extraordinary manner to the most diverse localities. It will grow alike in water and the driest soil, also in saline ground, and ascends the Himalayas to 11,000 feet. It is readily multiplied from cuttings, which strike root as easily as a willow, and push forth stems with unusual vigour. Hence it is one of the most eligible bushes for planting on coast sand to stay its movements, or for lining embankments. It furnishes material for a superior charcoal.—*Stewart; Royle; Roxb. ii. p. 100; Von Mueller.*

TAMARIX GERMANICA, *Linn.*, grows in Europe, W. Asia, and up to 15,000 feet in the Himalaya. It is useful as a sand-binding plant, particularly in moist places, also for solidifying precipitous river banks.—*Von Mueller.*

TAMBALA-VADU. *TEL.* A priest in a temple of Siva.

TAMBAN, also Tamburan. *MALEAL.* A prince,

TAMIL.

a raja, the title of the Cochin raja. Tamburati, a woman of the royal family of Malabar.

TAMBA PATRA. *HIND.* A copperplate grant or deed of gift.

TAMBI, Muhammadans of Ceylon, who excel as masons; perhaps the Tamil for brother.

TAMBIRA, in the Ahmadnagpur district, is a blight or disease occasionally attacking wheat, in which the grain assumes a copper colour and withers away.

TAMBOLI, a Hindu tribe of the Benares district. They grow the betel leaf, which, as also betel-nut, they sell. The betel leaf is among Hindus equivalent to a glass of wine after dinner among Europeans; it is also given in solemn asseverations or promises.

TAMBU, in Fiji, forbidden; the taboo of other islands.

TAMBUR. *HIND.* A drum of the European fashion.

TAMBURA, a sort of guitar. Tambura chherwala, a musical instrument.

TA-MEIN or Te-mi-ne. *BURM.* A garment or cloth in use with the Burmese women, broad enough to surround the waist, and slightly overlap there, where it is fastened by one end being tucked under the other, and it extends to the feet. It opens at every step taken by the wearer, exposing the greater part of one leg. It is the petticoat of the Burmese women. It is of cotton and silk with a zigzag pattern, the silken portion forming the skirt.—*Winter's Burma*, p. 56.

TAMHID. *ARAB.* A section of the Muhammadan creed. See Kalamah.

TAMIL, the name of a language and of a region where that tongue is in general use. The Tamil land is the same with Dravira, and comprehends all the districts in which that language is spoken, enclosing a portion of the eastern parts of the Peninsula. When the Dravira dominion was confined to the Chola, Pandya, and Chera principalities, its northern boundary was the Palar river. When the Chola princes colonized Tondamandala, it was extended westward to Tripati, in a line with Pulicat. Tamil was the language of three ancient dynasties of whom we have record,—the Chola of Tanjore and Combaconum, who were settled on or near the Cauvery and Colerun rivers, and who, as some suppose, gave their names to the Coromandel or Cholamandel coast; the Pandya, whose capital is now occupied by the inhabitants of Madura; and the Chera, who ruled at Kerala on the Malabar coast. Dravidian is a term recently applied to the vernacular tongues of the great majority of the inhabitants of Southern India. With the exception of Orissa, and of those districts of Western India and the Dekhan where Gujarati and the Mahrati are spoken, the whole of the peninsular portion of India, from the Vindhya mountains and the river Nerbadda to Cape Comorin, from the earliest period, appears to have been peopled by different branches of one and the same race, speaking different dialects of one and the same language; and scattered offshoots from the same stem may be traced still farther north and west, as far as the Rajmahal Hills and the mountain fastnesses of Baluchistan. Dr. Caldwell, excluding the Rajmahal, the Uraon, and the Brahui, designates as Dravidian nine idioms current in Southern India, viz. Tamil, Telugu, Canarese, Malealam, Tulu, Toda, Kota, Gond,

Khond or Kund or Ku; and it has been remarked that in the cultivated languages of the Dravidian tongue, Sanskrit words are not at all, or but very rarely employed.

Tamil is called Aravam by the Dekhan Muhammadans, and the Teling and Canarese races. The Tamil was formerly called by Europeans the Malabar language, but even the educated classes write it erroneously as Tamul. It was the earliest developed of all the Dravidian idioms, is the most copious, and contains the largest portion of indubitably ancient forms. It includes two dialects, the classical and colloquial, the ancient and the modern, called respectively the Shen-Tamil and the Kodun-Tamil, which so widely differ that they may almost be regarded as different languages. The Tamil language is spoken throughout the vast plain of the Carnatic or country below the ghats, the country termed the Carnatic Paen Ghat by the late Muhammadan sovereigns and by the British who have succeeded them, from Cape Comorin to Pulicat, and from the Bay of Bengal to the Eastern Ghats or eastern mountain range of Southern India. It is also spoken in the southern part of the Travancore country, on the side of the Western Ghats, from Cape Comorin to the neighbourhood of Trevandrum; and in the northern and north-western parts of Ceylon, where Tamilar formed settlements prior to the Christian era, and from whence they have gradually thrust out the Singhalese.

The Tamil race is the least scrupulous or superstitious, and the most enterprising and persevering, of all the Hindu people, and swarm wherever money is to be made, or wherever a more apathetic or a more aristocratic people is waiting to be pushed aside. The majority of the Hindus found in Pegu, Penang, Singapore, and other places in the east, where they are known as Klings, are Tamilians. All throughout Ceylon, the coolies in the coffee plantations are Tamilians; the majority of the money-making classes, even in Colombo, are Tamilians; and ere long the Tamilians will have excluded the Singhalese from almost every office of profit and trust in their own island. The majority of the domestic servants, and of the camp followers in the Madras Presidency, and along with its army, are Tamilians. The half of its army are Tamilians; and the coolies who emigrate so largely to the Mauritius and the West India Islands, were mostly of the Tamil people. Including the Tamil people who are residing in the military cantonments and distant colonies, and those in South Travancore, and excluding all Northern Ceylon, the people who, in 1881, speak the Tamil language are 13,068,279.

Ajmir,	1	Madras,	12,382,220
Assam,	242	N.W. Provinces, . . .	477
Bengal,	1,623	Baroda,	46
Berar,	792	Central India, . . .	428
Bombay,	8,971	Cochin,	37,256
Burma,	35,068	Hyderabad,	16,340
Central Provinces, .	9,666	Mysore,	130,569
Coorg,	5,025	Travancore,	439,565

The Tamil people are, generally speaking, a dark-coloured and short-statured race, energetic, fiery, quarrelsome, but not vindictive. Most of them have embraced Brahmanism, but the non-Brahmanical and fragmentary tribes have a spirit and a devil worship, and worship the local deities called Ammun. Amongst the poorer of the Tamil people we find remnants of a belief in spirits, a

reverence of black stones, a Shamanite idolatry, indications of their earliest mythology. Tamil and Malealam writing characters were originally modifications of the ancient Tibetan. The Dravidian languages are written in alphabets derived from some prototype of Devanagari, scarcely from the actual Devanagiri. Tamil is written from left to right. Tamil labourers arrived in Ceylon in 1858 to the number of 96,000, and the number who took their departure was 50,000. Amongst the Tamil people, the Adims or Adimai were predial slaves attached hereditarily to the land, and only transferable with it. The Vellala are a Sudra race of Hindus who speak Tamil. They assume the honorific designation of Mudali or (pl.) Mudliar, meaning first man, and are chiefly farmers, but many of them are soldiers. Another branch of the Tamil race is the I'dyan, who take the honorific appellation of Pillai, meaning sons. These are of the herdsman race, and are less advanced in education than the Vellalar. Amongst the broken tribes in the Tamil country, the more prominent are the Pariah, and the Chakili, the Yenady, the Kadir, the Malai Arisar, and others. The Chakkili is a currier, a tanner, shoemaker,—the village shoemaker, known to Europeans as a chucker,—one of the humble races of India, and corresponds to the Mhang or Mang of the Mahratta country, and the Chamar of N.W. India. They are held in great disesteem, and are the public executioners. The condition of the tanners is similar in Japan, where they are restricted to a particular locality, and are similarly employed.—*Census of 1881; Elphinstone's India, i. p. 410; Tennent; Wilson.*

TAMLUK, an ancient seaport town in the Midnapur province of Bengal. The district has an area of 621 square miles, and a population of about half a million. Its raja is of the Kaibarta or fisherman race, descendant of Kalu Bhuya, who succeeded to the State on the death of the last Rajput Peacock dynasty. Tamluk town is now 60 miles from the sea, but in the 4th century, Fa Hian sailed from here to Ceylon. In A.D. 635 it was visited by Hiwen Thsang, and was then washed by the ocean. It is at the mouth of the Ganges, well known between the 4th and 12th centuries. The people at the western mouth of the Ganges are called Damalipa or Tamalipa. Its fine temple was respected in the 18th century by the Mahratta hordes. It was long the site of an important salt manufactory when that was monopolized by Government. Although originally a centre of Buddhism, it has continued to be a place of great sanctity.

TA-MO, styled Boohi Dharma, a Buddhist missionary from India to China in the 6th century A.D.

TAMO GUNA. SANSK. The quality of darkness, the source of inertness and ignorance. See Guna.

TAMPI is a title used as a suffix in Travancore by the sons of princes, by Sudra wives, likewise by other male members of those families, and also by the members of certain other families who had received honours from sovereigns in ancient times.

TAMPINGI. MALAY. A package; sago tamping is baled sago, wrapped in the leaves of the pandanus.

TAMRA, in Siam, a book on house-building. On this subject there are elaborate text-books,

both in Burmese and Siamese. The Burman book contains the omens and signs with regard to all possible events and circumstances, and not merely to the process of building. The Siamese *Tamra* or *Manual of House-building* is more systematic. The theories in both works are based on and elaborated from the *Shastras* which record the customs of the Brahmins. The first thing the house-builder has to do is to find out the situation of the great dragon that encircles the earth with his body, like the Midgard serpent of northern mythology. This must be ascertained before operations are begun, for it will have a great influence, not only on the time of beginning the building, but on the way in which the foundations must be dug and the method of hoisting the posts into position. This the Burmese have recorded for them in a rhyme which every school-boy can repeat. The Siamese are not less alive to the necessity of accurate information on the subject, and it is fully set out in the *Tamra*.

TAMRANAGARA or *Cambat*, metropolis of the *Bala Raya* in the 5th century.—*As. Res.* ix. p. 194.

TAMRAPARNI or *Tambrapūrni*, also called *Porunnei*, a small river of Tinnevely, in S. India, sacred to the Hindus. It is the *Σαλμν* of the Greeks. It rises in the Western Ghats, in lat. 8° 52' N., long. 77° 51' E., and runs eastwards to the sea; length 70 miles. See *Striviguntum*.

TAMRAPARNI, a small sea-coast town in Ceylon, from which the island was called *Taprobane* by *Onesocritus*, an officer of Alexander's army who accompanied *Megasthenes*. Colonel *Yule* (*Cathay*, i. clixvi.) mentions as a legend that 'at the spot where the seven hundred men, with the king at their head, exhausted by (sea) sickness, and faint from weakness, had landed out of the vessel, supporting themselves on the palms of their hands pressed on the ground, they set themselves down.' Hence to them the name of *Tambapanniyo* (copper-palmed, from the colour of the soil).

TAMUNGONG, the title of the ruler of *Johore*.

TAN. *HIND.* The human body. *Tan*, man; *ghan*, body and soul and wealth. See *Rudra Sampradaya*; *Vallabhacharya*.

TAN, a handsomely-marked large snake of China, which is said not to be eaten, but its liver is prized as a medicine, and its skin is used to cover the *San Hcen* or three-stringed guitar.

TAN, a boatman race of China who dwell in their boats. They are in all the Chinese rivers, similar to the *Yao* and *Man* tribes. The physique of the boat women is vastly superior to that of the house population, who designate them *Suee ki* or water-fowl.

TANA. *MALAY.* A continent, a land.

TANACETUM TENUIFOLIUM. *Jacq.* The tansy, grows at 10,000 feet on the *Sutlej*, and is useful for flavouring puddings. Eight species occur in the Himalaya.—*Stewart*.

TANACETUM VULGARIS. *var. crispum.* The young leaves cut small are used in colouring and flavouring puddings, omelets, cakes, etc. The curled variety, *T. crispum*, used in garnishing, succeeds on the plains of India, and grows freely in any good soil.—*Jaffrey*.

TANBORA or *Timboro*, a volcano in the island of *Sumbawa*, in lat. 80° 20' S., and long. 118° E. Its summit is between 5000 and 7000 feet above

the sea, which washes the base of the hill for three-fourths of its extent. From the 5th to the 11th April 1815, the mountain emitted dust and frequent loud sounds. The dust caused a haziness in the atmosphere at places many degrees distant from *Timboro*, and the sounds were heard equally far off. Between 7 A.M. of the 11th and 12th the dust fell in such quantities at *Bhima*, 60 miles off, as to produce a total darkness. Pumice-stone of a brown colour was thrown out from the crater in immense quantities. Great fields of it, with scorched trunks and branches of trees, were found floating in the neighbouring sea, and much of these were thrown up on the shores of *Bali*, *Java*, *Madura*, *Celebes*, etc.

The sea made a permanent inroad at the town of *Timboro*, which it covered to the depth of 3 fathoms. Thousands of the people, on the peninsula formed by the mountain, and their houses, were destroyed. At *Samanap*, in long. 113° 57' E., the explosions were heard for several days, and the dust caused a total darkness between 5 P.M. of the 11th and 11 A.M. of the 12th. At *Sonabaya*, in long. 112° 58' E., the darkness was complete between 6 P.M. of the 11th and 4 P.M. of the 12th; and the effects of the eruption were felt at *Batavia*, in long. 106° 51' E., at *Java Head*, in long. 105° 11' E., at *Monto*, on the island of *Barca*, and at *Bencool* in *Sumatra*, in lat. 3° 48' S., and long. 102° 28' E., and at *Macassar*, in lat. 5° 10' S., and long. 119° 88' E. At *Ternate*, in lat. 0° 19' N., and long. 127° 29' E., about noon on the 11th April, the explosions were distinctly heard.—*Mr. G. A. Stewart in Jameson's Ed. Journ.*, 1820, iii. p. 389.

TANDA. *HIND.* A *Binjara* encampment. A caravan for transportation of goods on bullocks, bulls, and cows. A troop or company of traders or travellers.

TANDALI, *Tandiani* or *Tundiani*, nearly 17 miles from *Abbotabad* in the *Hindu Kush*, *Hazara* district, a sanatorium at a height of 9000 feet.

TANDAVA, a wild frantic dance of *Siva* over the destruction of the world, said to be danced by *Siva* occasionally for *Parvati's* pleasure. *Tandava-talika*, a name of *Nandi*, because he accompanies *Siva* in the *Tandava* dance.—*Duncan*.

TANDEL, *MAHIC*, or *Tandelu*, *TEL.* A superintendent of any body of men on shore or on ship-board; commonly written *Tiudel*.

TANDESWARA, the most famous and most honoured of the sixty-three special devotees of *Iswara*.

TANDOI, in *Bunnu*, land watered by canals.

TANDOQ. *ARAB.* *JAV.* *Palanquin*, a sedan chair, a palanquin carried by two bearers.

TANDRI. *TAM.* Father, a protector. *Tillitandri*, parents, father and mother, equal to the *Urdu Ma-bap*.

TANDULA, among the *Mahratta* race, is the chewing of grains of rice as an ordeal; another is the *Tapta-masha*, or taking a *masha* weight of gold out of a jar of hot oil or butter.

TANDUR. *HIND.* An oven.

TANDYA or *Tandaka.* *SANSK.* The most important of the eight Brahmanas of the *Sama Veda*.

TANESSUR, 80 miles south of *Ambala*.

TANG. *HIND.* A girth, anything that tightens or narrows; hence *Tangi*, a defile.

